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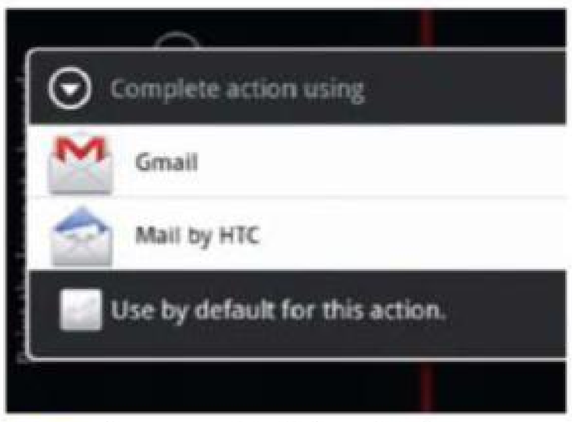
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2 Launch the link

When it has read, the phone will beep and vibrate, then launch the link. You may need to choose an app to launch it with.

Welcome

"Perfect timing, then, for our 30 KitKat Secrets feature, giving you an insight into some of the smaller and less well-known features"

MY HOME SCREEN

On (and off) Andy's phone this month...



This month I've been using: Moto G

The best-ever budget phone is now even better thanks to the KitKat update



Having launched a few months ago, KitKat is starting to be rolled out to some of last year's flagship devices. By the time you read this, the update for the likes of the S4 and the HTC One will either be on your phone already, or awaiting an imminent launch. Perfect timing, then, for our 30 KitKat Secrets feature, giving you an insight into some of the smaller and less well-known features of what is proving to be one of the best-ever versions. We take a look at some of the larger, more experimental features like the new ART runtime that significantly increases the speed of your apps, to some of the hidden UI enhancements that you will most likely have missed.

Ironically, these flagship devices are not the first to receive the KitKat update. That honour went to the Moto G, a phone that can be purchased for as little as £100. It's yet another way that the device has departed from the traditional budget Android phone. It's also a good indication of just how great a role the manufacturers' skin has on the ease and speed with which updates can be produced, and also whether an update will be produced at all. A new Android version always brings some controversy with it as seemingly still current devices are cut off in their prime. So we've asked, does an Android phone have a shelf life, and should it be longer? And does it affect which devices you buy? If you have any thoughts on this thorny subject do get in touch as I'd love to hear them.

Enjoy the issue!



Andy Betts Editor

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Amazon's latest Android tablet takes on the competition

Just how long should an Android phone be supported with software updates?

The shelf life of an Android smartphone

THE big STORY

When purchasing a smartphone, users now expect their device to last them for a while, even more so when you consider the price of some of the high-end devices on the market nowadays, or if you're tied into a multi-year contract. With Google producing systematic updates to the Android operating system, be it major software updates, or simple bug fixes, phones tend to be supported for a fair amount of time. However, the trend may soon be shifting. Last year saw a record number of Android smartphones hit the market, with the likes of Samsung and Sony leading the way. Although the rise in choice is great for people looking to invest in a new smartphone, it means many users using a slightly older device are forgotten.

HTC has recently announced that its 2012 flagship phone, the HTC One X, won't be receiving the 4.4 update, despite only being out for under two years. Similarly, the Samsung Galaxy Nexus is one of the most widely used stock Android devices, but it now won't receive an update to Android 4.4 either. "Not too long ago, consumers could count on their phones lasting for anywhere from 2-5 years. Now, due to open sourced operating systems such as Android, manufacturers are able to release upgraded models every 6-9 months," says Shlomy Aviram, director of mobile apps at DSNR Media. "For many, purchasing a smartphone is a serious investment. An investment that takes research,



"Consumers used to count on their phones lasting from 2-5 years"

Shlomy Aviram, DSNR Media

Our view



"Nothing will annoy an Android enthusiast more than finding out their phone is being cut off in its prime. Even the Nexus range is not immune – its biggest selling point was fast, frequent updates to the latest OS, but as Galaxy Nexus users have found out, that promise can be short lived. I'd like to see manufacturers guarantee a minimum number of updates so users know where they stand."

Andy Betts, Editor

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financial planning and a belief we are getting our money's worth. This is even more apparent if you look at the $600 phones now available."

It's all about revenue

Fragmentation is a common topic that arises when talking about Android phones, but it's even more important when applying it to the shelf life of an Android phone. CEO of Location Labs, Tasso Roumeliotis, believes that a fragmented ecosystem is great for keeping your phone feeling new: "From an end user perspective, fragmentation is good. It means Google is innovating faster on Android and introducing additional capabilities more quickly across more device types (tablets, minis etc) – and this allows for more rapid introduction of new end user facing features. So, end users get new stuff quicker and may even update their phones faster."

The technical aspects of producing an update for devices is a complicated one. It can take months of planning, bug fixing and intensive testing before releasing an update onto a single device, and with companies like Samsung needing to cater for devices of all shapes and sizes the amount of resources and time needed to individually cater for certain devices soon adds up, which Avi Greengart, research director at Current Analysis believes is the main issue: "At times it's simply a matter of allocating resources, and manufacturers tend to



"Manufacturers prioritise work on new phones that bring in revenue"

Avi Greengart, Current Analysis

prioritise work on new phones that will drive revenues going forward rather than assigning engineers to work on old phones that were sold and paid for in the past." Alongside the technical difficulties of producing updates, the other technical problem faced by manufacturers is the capabilities of the devices being tested on. The latest Android updates contain an abundance of new features, many of which can really push the limits of even the most newest devices. "Some devices simply do not have the horsepower, or specific hardware features, required by the latest versions of an operating system," says Greengart. "Sometimes this is the OS vendor's fault and sometimes consumers buying cheap phones that are underpowered." With the power needed for these updates, many times it's taken out of the manufacturers hand, even if they want to update some of their older devices with a substantial userbase. Although manufacturers may have their hands tied when it comes to the technical capabilities of their older devices, many a user

What you say

How long do you think your phone should get updates for?

» John Ramsden
Forever. Ultimately there will come a time when the OS is too top heavy for the processor/ memory, just like PCs get slower and slower with repeated 'updates'.

Usually though, I would expect the battery to fail or the phone to be damaged beyond repair thus necessitating a total hardware upgrade.

» David Wallace
At least 2 updates preferably.

» Bruce Baner
It's very important, for example I never buy #HTC smartphones again for that reason, NEVER GET MY UPDATE!!!!

» Philip Boardman
I agree with Bruce, over #HTC especially when I had the HTC Desire HD, was promised major update for months, then nothing (as device unable to cope with the latest version) so why bother reporting to get the upgrade for the months prior?

So jumped ship to Samsung and #bliss thank you!

» Keith Elmer-Fudd Pottinger
Not too bothered as I always use a launcher. The thing that does matter is any security improvements that an update may bring.

» Mark Mallison
Yes, extremely important. I'd want it time based as opposed to version based, that way, you can at least feel confident the phone will remain as up to date as possible during the life of the contract. So 2 years would be the expectation for me.

» John Mason
Minimum 2 years or as the hardware allows, whatever is longest.

» Jose F Cruz
I would prefer major updates as long as I own my device. I would like to have latest OS available but I also understand that some would require more memory.

But yeah I'd like to stay current with the latest updates...

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would believes that they need to make the update process a lot more transparent from the get go. Many manufacturers often leave it to just a few weeks before they release a software update onto their device. To make the process easier for users to understand and ultimately make the right decision, a possible fix is for manufacturers to outline their plans for when and how they will update their devices.

> "Each network and carrier has specific requirements of what they need for each update for a device before they release it"

Looking past the initial technical implications of adding software updates to devices, sometimes it can be the middle man that's the problem, in this case the mobile carrier or network. Each network and carrier has specific requirements of what they need for each update for a device before they release it OTA. Before a manufacturer can confirm an operating system update with Google, they first need to go through the sometimes laborious task of making sure each and every carrier of their device has the necessary changes needed to approve it. "Carriers are also another speed bump manufacturers must face," says Aviram. "Exclusives that are offered to a carrier, in the beginning seems like the best idea, however for consumers they are thrown into a quicksand situation. By delaying upgrades for their customers, carriers provoke a new buying opportunity in order to receive the update for phones that are no longer supported. Constantly, consumers are forced to buy the latest phone to have their beloved apps or expectant OS updates."

The HTC One X won't be getting updated to KitKat

The best and worst supported devices

A look at how some of the most popular devices have fared...

Samsung Galaxy S III	Launches with Android 4.0 May 2012	Updated with Android 4.1 Dec 2012	Updated with Android 4.3 Dec 2013	To be updated with Android 4.4 March 2014
Nexus 4	Launches with Android 4.2 Nov 2012	Updated with Android 4.3 July 2013	Updated with Android 4.4 Nov 2013	
HTC One	Launches with Android 4.1 March 2013	Updated with Android 4.2 July 2012	Updated with Android 4.3 September 2013	Updated with Android 4.4 February 2014
Galaxy Nexus	Launches with Android 4.0 Oct 2011	Updated with Android 4.1 July 2012	Updated with Android 4.2 Nov 2012	Updated with Android 4.3 July 2013
Samsung Galaxy Note II	Launches with Android 4.1 Oct 2012	Updated with Android 4.3 Nov 2013	To be updated with Android 4.4 March 2014	
Sony Xperia S	Launches with Android 2.3 March 2012	Updated with Android 4.0 June 2012	Updated with Android 4.1 May 2013	Updated with Android 4.2 Nov 2013

Get hacking

If you're worried about the lack of support for your current phone, thankfully there's a couple of things users can do themselves to prolong it. Thanks to the excellent Android community available nowadays, advanced users are constantly producing their very own software updates for older devices. Although applying these updates can be trickier than the standard OTA updates, it can bring the latest features to many of the most popular older phones. Doing this will also teach you the world of Android hacking, which can open up your phone to a whole host of new features not found in software updates. In the same vein, there are hundreds of apps on the Google Play store which add many of the styles, functions and features found in the latest OS updates.

The argument for just how long an Android phone should be supported for by a manufacturer is a difficult one to answer. Each phone is unique and when we take into consideration the problems faced when creating, producing and sharing software updates, it's an issue that will be around for some time. Although the cases of the HTC One X and Galaxy Nexus might be few and far between at present, if the current trend of releasing numerous devices in one year continues, it's a problem Android users might unfortunately need to deal with, and something that manufacturers will need to address when planning the update schedule for their smartphones. Only time will tell.

Why is the iPhone still first choice for many app developers?

Tired of waiting for that hot new iOS game to appear on the Play store? We look at whether it is money, piracy or something else that is at the heart of the problem

Even with Android clearly dominating market share, and with downloads from the Play store dwarfing those from the App Store, there is a simple, frustrating fact that refuses to go away. In general terms, the majority of developers initially launch their applications on the iOS platform first.

According to Jeffrey S. Hammond of research analysts, Forrester Research: "More than a third (35%) of the 1,600 polled respondents target iPhones as their first priority device versus less than a third (27%) who target Android phones first."



"More than a third of those polled target iPhones as their first priority device versus less than a third who target Android phones first"

Jeffrey S. Hammond, Forrester Research

Fragmentation is one reason. The iOS platform has to deal with six to eight platforms while Android has to address, wait for it, 12,000. "There is no way we can test them all. Just purchasing the devices alone would be nuts," commented Will Stallwood, of Splice creator Cipher Prime.

Piracy exacerbates the problem. In October 2012, Sports Interactive studio director Miles Jacobson announced that Football Manager on Android was seeing 11 illegal downloads for every legitimate purchase, up from nine that August.

Then there is revenue. Analysts, Distimo, reported that the top 200 paid Android apps grossed $1.1m, in April 2013. The top 200 Apple apps grossed $5.1m. Agant's Dave Addey, the UK Train Times app developer, commented: "It comes down to this: do you port to Android or do you develop another app for iOS? In the end, iOS is the better business case."

But the tide is turning. Development tools and Google-supplied support data is making fragmentation less of an issue and the platform



Android exclusives

You won't find these on the iOS App Store

Final Fantasy VI

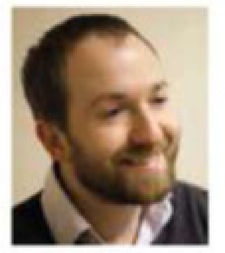
The iOS version is on the way but, at the time of writing, the Android version is ready to play.

SwiftKey

Enables intuitive and fast touch typing on any Android keyboard with intelligent predictions.

ASTRO File Manager

A file manager to organise your pictures, music, videos and other files like on your desktop.



"It comes down to this: do you port to Android or do you develop another app for iOS? In the end, iOS is the better business case"

Dave Addey, App developer

easier to work with. Also, the iOS vs Google revenue split in 2012 was 81% to 19%. Last year than evened a touch to 73% and 27%. Observers see this situation improving even further throughout 2014.

According to industry analyst, Benedict Evans: "Android is no longer optional for any publisher seeking real reach. This applies even more if your app is free, since Android download rates are much closer to iOS than Android payment rates (and of course 'free' doesn't mean no revenue)."

Coming soon Top iPhone apps heading your way this year

Worms 3

» ETA: This year



At the moment, it's an iOS exclusive. The rumour mill says that version three is on the way, though.

IFTTT

» ETA: Spring



... or If This Then That to the uninitiated. The channel connector is due to appear early this year.

The Room 2

» ETA: Spring



The mystery and puzzle game was released in December on iOS but will appear on Android this year.

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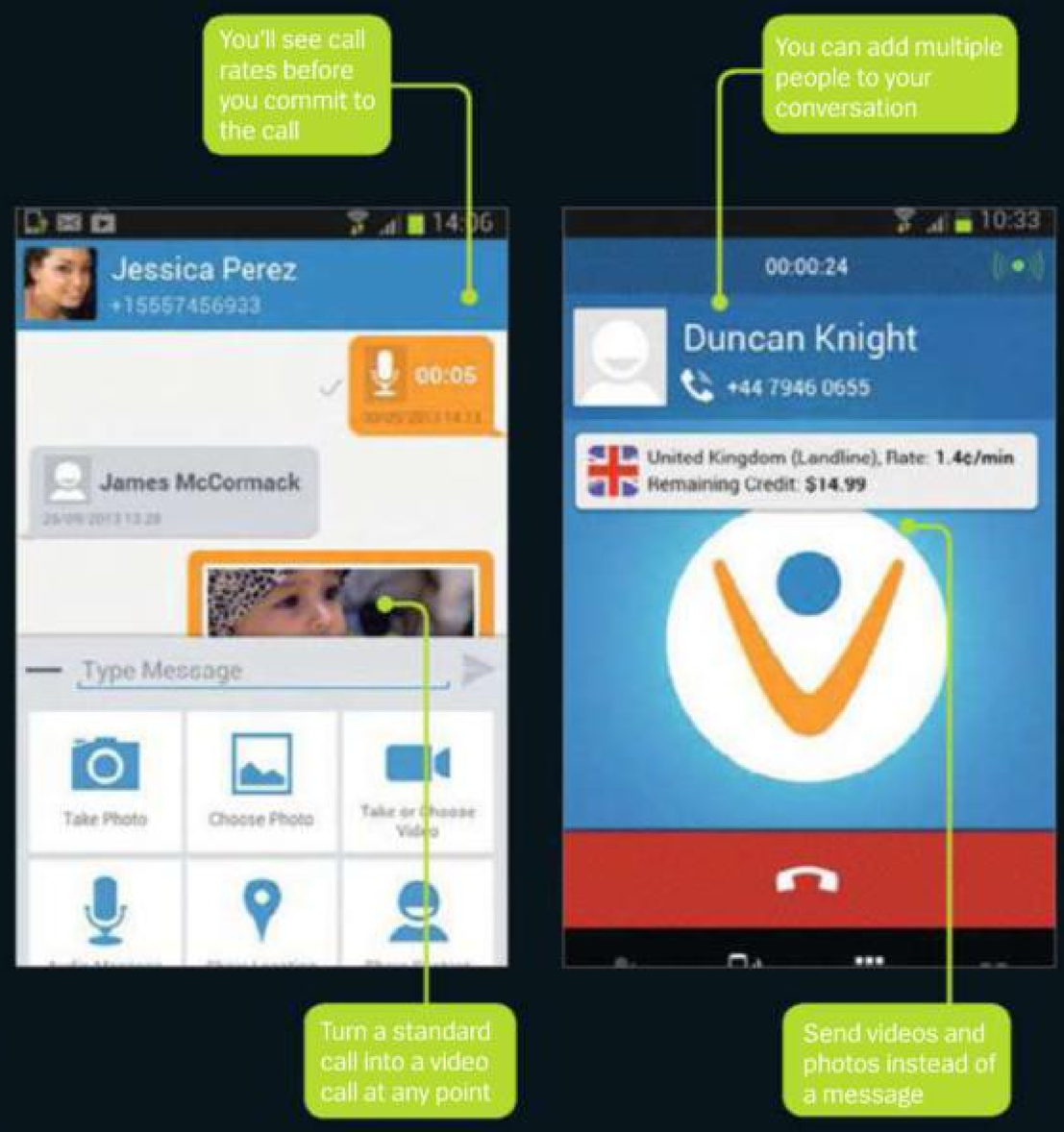
Million sellers

Inside Android's most popular apps

Vonage Mobile

Downloads: 1-5 million Developer: Vonage Launched: 2012
Price: Free Play store rating: ★★★★

Although Vonage may look like a fairly standard video messaging app from the outside, it's when you start to explore the app where you'll soon see everything it's capable of. Similar to the likes of Skype, users of Vonage can make free video calls to friends and family, while also being able to make international calls at competitive prices. Where the app sets itself apart from the competition is that it also includes a unique file sharing system, enabling users to quickly share photos with multiple users with just a few presses. You can even record video messages to send to people.





Q&A Tzahi Efrati,

Innovation & research director at Vonage

Are you surprised with the level of downloads the app has received?
We're very happy with the popularity of the app. Users are looking for an application that solves multiple communications needs, and Vonage Mobile combines the best of both worlds: feature-rich on-net capabilities (free app-to-app phone and video calls, text messaging, video voicemail and more), and low-cost calls via the app to any phone number in the world. The reviews we have received on the app and the way people are using it reinforce that combining multiple communication features into one easy-to-use holistic app is appealing.

Is it possible to send a video voicemail instead of a standard voice message within the app?
Yes. The Vonage Mobile® app provides users with the option to easily leave a video message instead of a traditional voicemail when an audio call to another app user goes unanswered. Vonage Mobile is the first communications app to offer this brilliant option.

How easy is it to set up international calls within Vonage and how competitively priced are they?
The Vonage Mobile app simplifies international calling. The app also provides amazing savings on international calls and offers competitive, low-cost international calling rates to those who have not yet downloaded the app. App users can instantly add calling credit directly through their iTunes or Google Play account without ever leaving the app. Rates start at $0.01 per minute, and users can purchase $4.99, $9.99, $14.99 and $19.99 calling credit packages. Adding to the ease of use, Vonage Mobile utilises the contacts in a user's existing address book for one-touch dialing through the application. Our rates are, on average up to 60 to 75% less than major mobile carriers.

What do you think the key reasons users should choose Vonage over other video-calling applications, such as Skype?
The Vonage Mobile is a holistic communications app designed specifically for smartphones. Therefore, everything is done right from the app. This includes leaving video voicemail messages when your call goes unanswered and using your phone's existing address book through the app. With Vonage Mobile, you do not have to create a new profile in order to make calls and your personal caller ID information will be displayed when you call your friend's phones. Lastly, the Vonage Mobile app allows you to make free app-to-app calls, and if the person you are calling has not yet downloaded Vonage Mobile, our rates are, on average, 30 per cent less than Skype.

What feature do you most enjoy?
Without a doubt, I love using video calls and video messages the most. As an expat, it is so great to feel like you're right next to your family and friends. I also love sending them video messages of my one-and-a-half year old son, so they don't feel like they are missing out on watching him grow up. It really helps to keep us connected in a more meaningful way.

Are there any features you're looking to add to the Vonage app, or current ones you want to improve?
We're always on the lookout for new features that we can include in Vonage Mobile. At the moment we're focusing on the video voicemail feature that's already within the app and looking at different ways we can expand its usage through the app for all our users.

A brief history of... Android controls

One of the strange things for new Android buyers is the way every phone has its own identity that separates it from the rest of the crowd. This is most obvious in the button layout. Things are slowly being standardised towards one style, but over the years we've seen plenty of alternatives, some better than others...



Trackball and all

The early Android phones came with call buttons, a search button and a trackball for accurately placing the cursor in a line of text. They were ditched when screens dramatically improved.



Search button

An early prerequisite of Android phones was a physical search button, often little used. It was replaced by a virtual one, although Microsoft adopted a Bing button for Windows Phone.

Privacy: Android's next big issue?

Fed up of potential phone snoops? We've taken a look at some solutions



OmniROM and TextSecure are both new ways to enhance security, bypassing Google's location services and encrypting data respectively

Government agencies are spying on you. Based on information derived from whistle blowers like Edward Snowden, emails and texts and more are open to official peeking. As recently as December of 2013, the Guardian revealed that even online games were the target of systematic spying: specifically World Of Warcraft and Second Life. In addition, there are additional, still unexplained, shady software installations, such as Carrier IQ, lurking on all Android phones.

Understandably, technology users feel rather vulnerable, angry or both. So how do you protect your privacy from outside agencies? If you are an Android user, there is an answer and it lies in your ROM or, rather, somebody else's ROM.

Cyanogen, the creators of the CyanogenMod version of the Android ROM, now offers its users secure text messaging by integrating Open Whisper System's TextSecure, which utilises automatic encryption. You can still use whatever SMS app you like.

Moxie Marlinspike, co-founder of Open Whisper Systems, said: "The collaboration we've done with Cyanogen takes us substantially closer to our goal of completely frictionless secure communication. Users don't have to do anything special or different, it just happens." The developments are continuing with the new version of OmniROM targeting the Android dialer, developing an integrated phone number directory without Google. The new OmniROM dialer will plug into OpenStreetMap, accessing local search results when you enter keywords. Google doesn't see the data.

Rooting your phone at all has always had an aura of naughtiness shrouding it. In these uncertain times, however, rooting your Android phone to install a new ROM OS that improves your privacy is becoming an attractive and eminently sensible idea.

The Blackphone

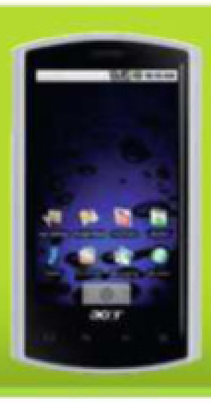


Created by Silent Circle (populated by ex-Navy SEAL special forces and Silicon Valley cryptographic experts) plus Spanish manufacturer, Geeksphone, the Blackphone, based on the Firefox OS, promises to be the most secure phone yet. Offering encrypted, peer-to-peer communications, encrypted video, text and VoIP (Voice-over-Internet-Protocol) calls, the Blackphone is incorporated in Switzerland with a Swiss data center that has minimal data retention.



Rotating buttons

Before virtual buttons HTC used capacitive buttons on either edge of the Flyer. They would illuminate depending on whether you were holding the device upright or sideways.



Capacitive buttons

Capacitive buttons quickly replaced physical ones. They offered sleeker looks and fewer moving parts to make them last longer. Physical home buttons often remained.



Full virtual buttons

With Ice Cream Sandwich came full virtual buttons, leaving device fronts almost completely featureless. Samsung is one of the few to have never used them.

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10 things you need to know about... Wireless tech

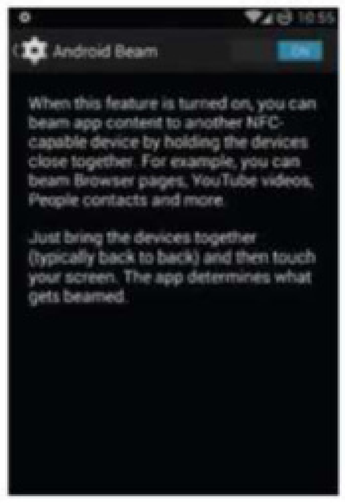
1 Wireless charging standards

There is as yet no standard for wireless charging, as the technology is still in its infancy. However, most manufacturers are moving towards the Qi technology. Nokia produces a Qi charger for its Lumia Windows Phones, and Google has one for the Nexus. They should be totally inter-changeable.



2 What is Android Beam?

Android Beam is a feature that uses NFC technology to enable easy file sharing between two compatible devices. Both devices will need to be equipped with NFC and running Android 4.0 or later. With the tech turned on, load the file you want to share then tap the devices back to back to send it.



3 NFC tags

NFC has yet to hit the High Street in any meaningful way. The best way to make use of the tech right now is to buy some NFC tags (they're under £10 for a set of at least five from Amazon). Then place the tags in specific locations and assign functions.



4 NFC automation

Examples include placing one in your car so your phone switches to hands-free mode, or putting one by your bedside which, with a simple scan, will silence your phone.



5 Low Energy

The launch of Android 4.4 introduced full support for Bluetooth LE. This uses less power and is designed for fitness devices. It is part of the Bluetooth 4.0 spec, so ensure your gadget is supported.



6 Connecting with AirPlay

AirPlay is Apple's proprietary tech for streaming media content. It can be used with Android through various third-party apps. Our current favourite is AllCast, a complete streaming solution that supports other devices including the Xbox. The app has a free trial version too.

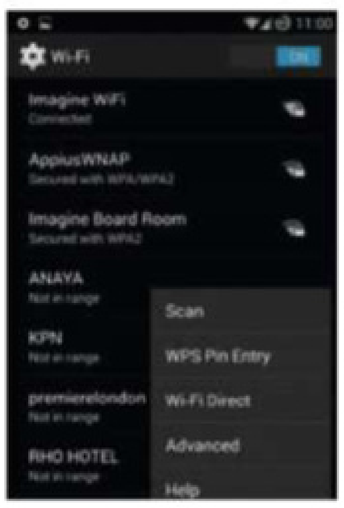


7 Discover DLNA

DLNA is yet another wireless streaming solution that is built into a number of TVs, PCs and other devices. It is supported in most Android devices but there often isn't an app to take advantage of it. The HTC One has it in the Gallery app, otherwise you need to head to the Play store.

8 Wi-Fi Direct

Wi-Fi Direct is a well-hidden and little-used Wi-Fi standard supported in Android. It enables you to connect two devices over Wi-Fi without going via an access point. To find it go to your Wi-Fi settings.



9 Miracast

Miracast is a screen mirroring solution that wirelessly transmits the contents of your device's screen to your TV. You need a dongle attached to the TV. Samsung's AllShare feature on its Galaxy devices is based on Miracast.



10 4G and lower

Most new mid to high-end devices support 4G connectivity. It can be a heavy strain on your battery, especially with the still limited coverage in most countries. To drop back to 3G go to Settings>More> Mobile networks and make your choice under Preferred network type.



Moto X goes global

Motorola's enticing new smartphone has finally had its UK launch, but will it achieve success? We take a closer look

The Moto X was seen as an impressive return to form for the oldest name in mobile, showing how Google ownership had freed it up to try new things. It's now available outside of the US, just as it was announced the company would be bought by Chinese manufacturer Lenovo. The new phone has enjoyed a lot of attention for its largely 'touchless' design specification that enables it to respond to voice commands, even when the screen is off. The additional support CPUs help to deal with 'always-on' functions while low-power features add to the headline 'all-day' battery life.



"Here, we're launching with wide distribution from day one"

Andrew Morley, Motorola UK

The Moto X was part of the new business direction of the company that slashed jobs and its stable of phones from 30 devices to just two: the Moto X and the Moto G. "I think we learned a lot with Moto X in the US," said Andrew Morley, vice-president and general manager of Motorola UK. "We launched with one partner. Here, we're launching with wide distribution from day one."

That launch will see the same Moto X specification as the US variant but Motorola won't be providing access to the Moto Maker software for Europe. Moto Maker is the online customisation portal that lets prospective customers choose the colour, pattern and finish of the Moto X. Hence, UK owners will only have access to black or white models, instead of customising their own. For some, that choice will be further restricted because the UK retailer, Phones 4u, has indicated that it has a three-month exclusive contract on the white model.

So will the Moto X be a success? This might depend on how prospective buyers respond to the launch price that is set to be a pretty hefty £380, which is around £135 (in currency converted terms) more than the US equivalent for a SIM-free model. That's not all, however, since the initial summer 2013 release of the Moto X, LG has released the Google-supported Nexus 5. "You can get the Nexus 5 for £299 and the specs don't justify the £80 difference," said Francisco Jeronimo, director of European consumer wireless and mobile communications for research firm IDC.

technical specs

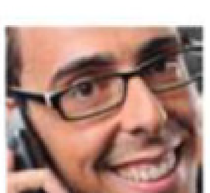
- Operating system: **Android 4.4 KitKat**
- Processor: **Dual-core, 1.7GHz Qualcomm Snapdragon S4 processors**
- Memory: **16 or 32GB**
- Dimensions: **129.4 x 65.5 x 5.7mm**
- Weight: **130g**
- Display size: **4.7-inch AMOLED screen**
- Display resolution: **HD, 720p**
- Expansion slot: **micro USB**
- Camera: **High-resolution, 10-MP camera**



We're not convinced the Moto X is going to enjoy a great reception from UK users because of the price and lack of customisation

Key features

- ✔ The installed Gorilla Glass screen uses a nanotechnological waterproof coating on the inside and out making it water repellent.
- ✔ Intelligent screen lighting and power use provides an 'all-day' battery.
- ✔ Touchless, voice control enables voice control of the phone at any point, even while the screen is off.
- ✔ Twist the phone like the twist-grip accelerator on a motorbike a couple of times for a novel way to open the camera.



"You get the Nexus 5 for £299 and the specs don't justify the difference"

Francisco Jeronimo, Telecoms analyst, IDC

The Motorola Moto X is a phone with a range of interesting, although hardly 'killer', features that may attract gadget enthusiasts and the curious. Add to that the exclusion of the headline Moto Maker service in the UK, its relatively poor value for money quotient when compared to rivals such as the Nexus 5, and uncertainty about the company's future direction, and the Moto X may receive a rough ride in the UK. Only time will tell whether Lenovo can turn the struggling giant around.

stealth3s.com

ION Glasses: a rival for Google Glass?

At a glance

- **Product name** ION Glasses
- **Available from** www.ionglasses.com
- **Price** Rumoured to be $129

The ION Glasses are the first pair of prescription glasses that remotely connect to your Android device to offer notifications and access to controls.

Building on the functionality of Google Glass, ION Glasses are hoping to become big players in the wearable tech war. Here's why...

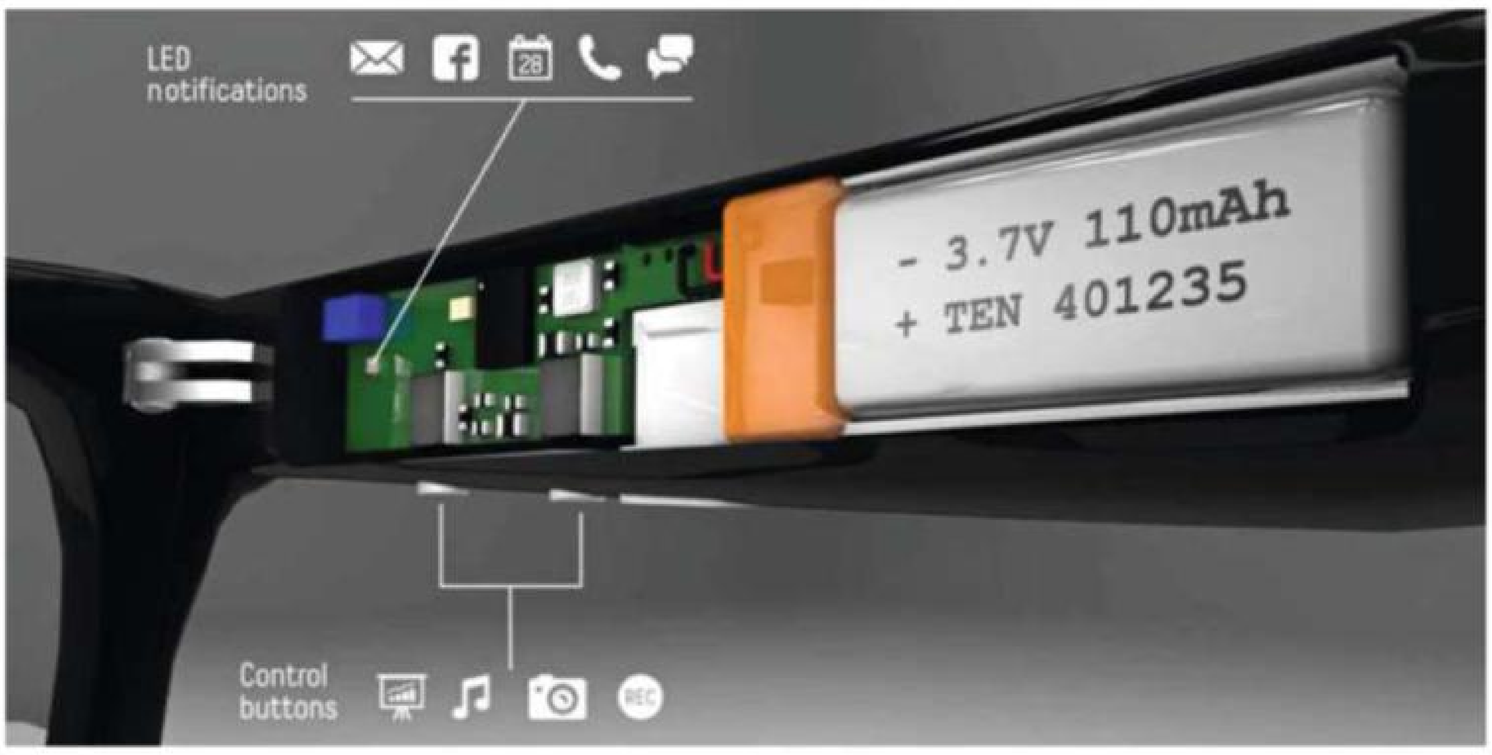


Wearable technology has become a prevalent thing in the Android ecosystem, partially due to the release of Google Glass. Since then, we've seen several offspin products closely based around Google's eyewear, with one of the newest that's just received funding on Indiegogo about to hit the market. From the outside, the ION Glasses may look like a standard pair of glasses, and while they do not offer the same heads-up display of Google's product, they do support a wide variety of smart functions which in many ways expand on the usage of Glass.

One of the key areas of the ION Glasses is the connectivity it has between them and an Android device. By using Bluetooth 4.0, users can remote control a vast amount of functions on their device. Although many of these are settings based, including things such as volume and brightness controls, it offers a quick and easy way to manage them without ever actually needing to touch your phone. But where the ION Glasses really shine is just how interactive they are with various apps available on the Google Play store. Through the glasses you can access messages sent and received through Facebook and similar social media apps, as well as manage SMS messages.

Another interesting feature of the ION Glasses is their ingenious location-tracking software, which help those who frequently lose their eyewear. Thanks to a specifically designed chip included in the frame of the ION Glasses, when you misplace them, your tablet or phone will instantly alert you to their whereabouts. For those who like glasses with a bit of added style, users will also be able to take advantage of the changeable LED light on the left rim of the ION Glasses. Although not a major feature, the colour of the LED can be changed.

Wearable technology has come on leaps and bounds and we've seen more and more items hit the market recently. The ION Glasses follow in the footsteps of Google Glass in many areas, but look to be a far more user friendly and accessible experience while also being available for a very competitive price. If you're looking to invest in your first bit of wearable technology this year, then the ION Glasses might just be for you.



The glasses give you notifications for your favourite apps as well as an easy way to control your phone on the move

Storemags.com

Key features of the ION Glasses

Smartphone interaction

As well as controlling various settings, the ION Glasses also work with some of the Play store's most successful apps. This is all done with the Bluetooth 4.0 integration that has been stylishly contained within the ION Glasses' frame. They work with Android and iPhone.





Button control

Apart from the remote function of the ION Glasses, you'll also find two small buttons located on the top-right of the rims. These enable users to control the volume of all music stored on their device and even go between presentation slides and webpages by pressing them.

Prescription

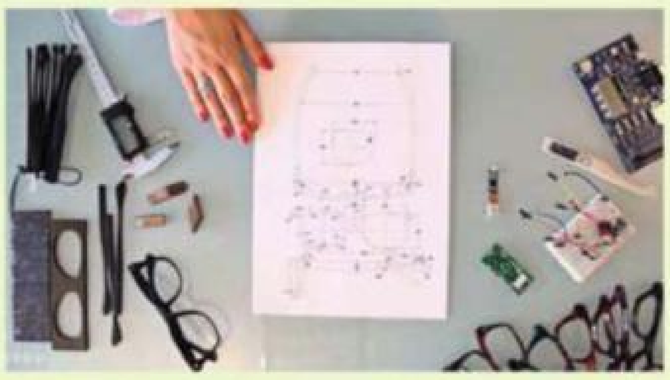
What makes the ION Glasses stand out from similar items is that these can be worn by those needing specialist prescription glasses, thanks to the micro coating used on the lens. Each pair of ION Glasses also doubles up as sunglasses, so they really are multifunctional.



Q&A ION, co-founder Ricardo Urias

"How long did it take to get the ION Glasses from an idea to a working product?"

A We started the idea at the end of 2012. And it took about nine months to develop the technical solution (micro technological components to include inside the arm of the framework) which works perfectly, and the first draft of design. This allowed us to submit the project to Indiegogo. From September up to date, we have been developing the final industrial design, and looking for the components and the factories that can manufacture the final product. Now, we can say that in a period of time shorter than three months we will be able to have the first production ready. Therefore, from idea to reality, it is going to take between 15 and 16 months.



The ION Glasses are bang on trend

"Was the look and style of the glasses important when designing them?"

A Absolutely. We really believe that wearable technology has to be truly wearable. And we wanted our glasses to be as fashionable as those of a premium brand. We do not want our clients to be like cyborgs... in fact, and thinking on the future, we plan to have a model designed by an awarded designer, Mac Funamizu.

"Is it possible to control your smartphone functions using the ION Glasses?"

A Yes, you can operate several things: the photo and video camera, the voice recorder, the music and the volume. We've tried to make the glasses as interactive as possible in all areas.

"In what sort of ways can the glasses connect with Android smartphones?"

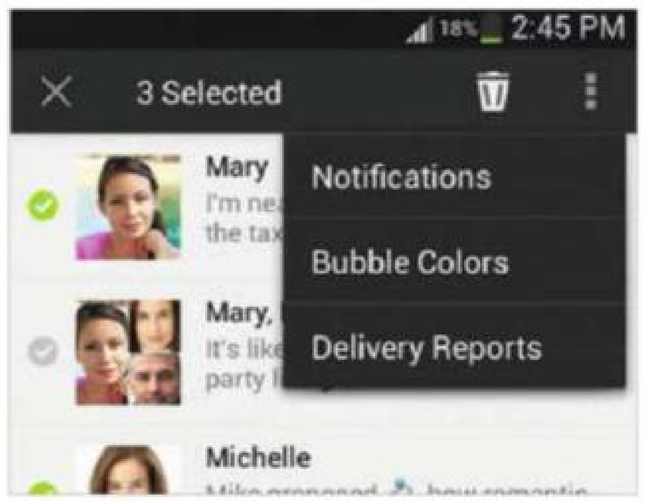
A They can connect with the smartphones or tablets through Bluetooth 4.0, and, thanks to the application which controls the function, the user will be able to receive many types of notifications in the glasses, use them as a remote control of the smartphone, and avoid losses.

"What are your future plans?"

A Our first plan is launching them on time. Afterwards, we plan to launch more models, more functions, and, also, we want them to be open for external developers who can enrich the possibilities and usability of ION Glasses.

Five compatible ION Glasses apps

The best compatible apps for ION Glasses on the Play store



Textra SMS

» **Price** Free

By using the ION Glasses, you can open up unread SMS messages and also download additional images, videos and music files sent to you through the app.

Outlook

» **Price** Free

Although you can't use the glasses to reply to any emails, you can open emails and even switch between your various inboxes and draft folders with ease.

Talon for Twitter

» **Price** £1.21/$1.99

With the ION Glasses, you can respond to direct messages sent to your Twitter account, as well as scroll through your Twitter newsfeed to see what's going on.



Alarm Pro

» **Price** Free

You can fully control all the alarms set through this app, as well as set new ones. Changing the ringtone associated with each alarm you set needs to be done on the phone, however.

Facebook

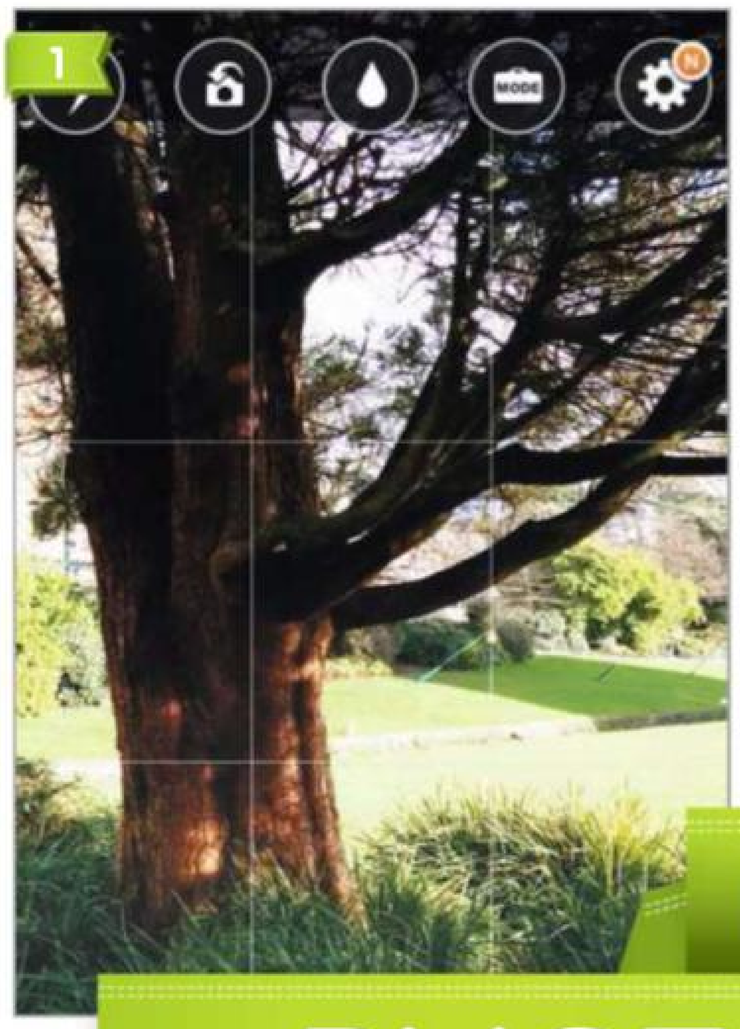
» **Price** Free

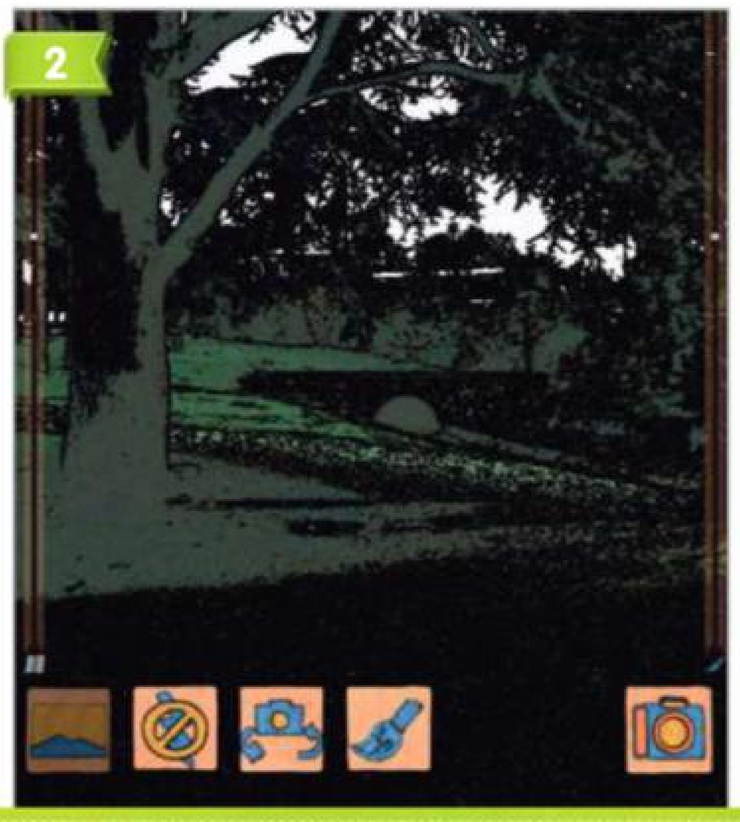
Whether it's a message through the additional Messenger function, managing likes on a picture or opening notifications, it's all possible through the Facebook app.

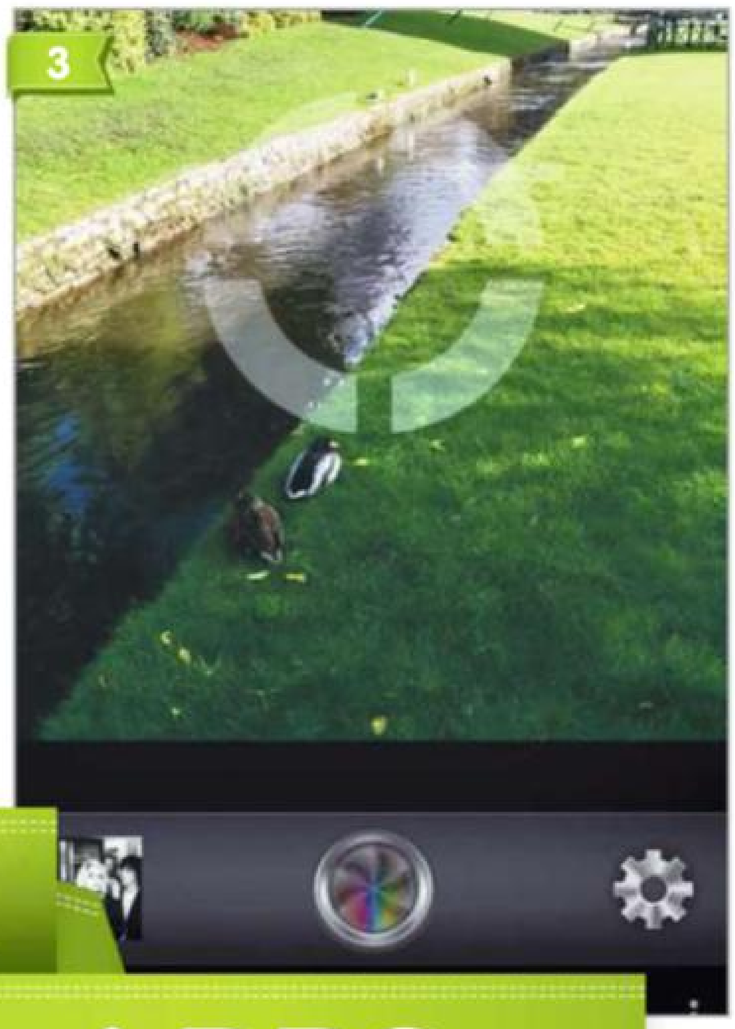
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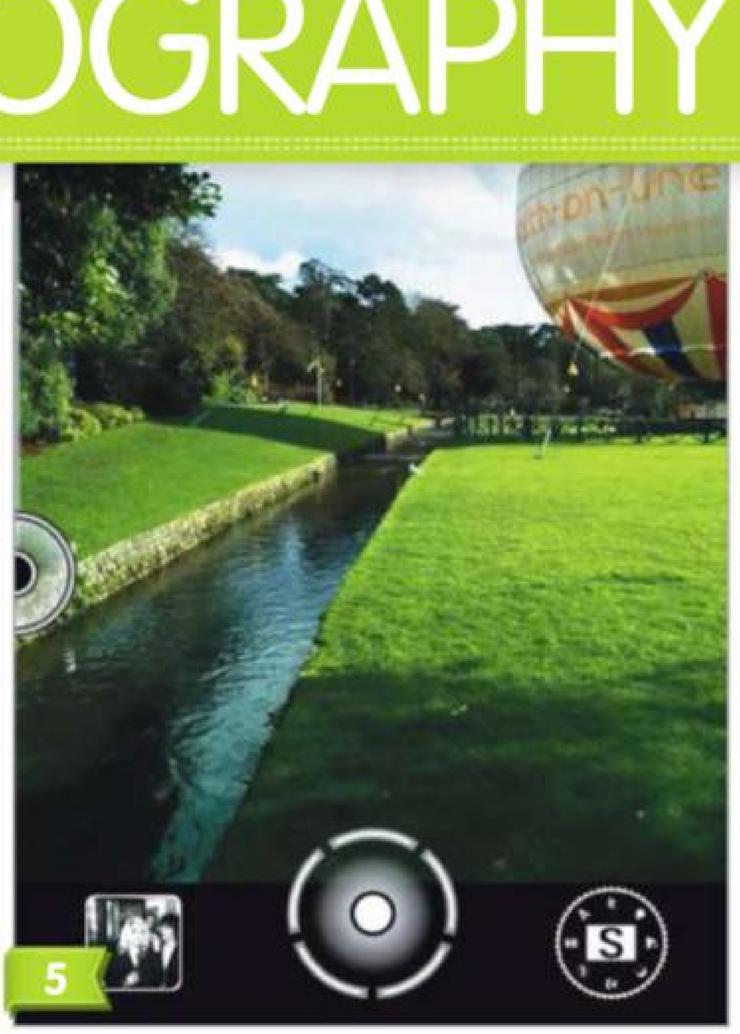
GALLERY OF... PHOTOGRAPHY APPS













1 Cymera

Cymera is best suited for those who want a few basic settings to explore. Everything included has a couple of sentences describing what it does and how to best use them. Cymera also includes an image upload system.

» **Price:** Free

2 Cartoon Camera

The animated style available in Cartoon adds a colourful alternative to normal photography apps. The colour intensity can be altered for each photo you take as well as the overall animation levels.

» **Price:** Free

3 HD Panorama

Through the HD Panorama app the stitching process is made simple, and you can piece up to six photos together to create one image. Once produced, the panoramic image can then be edited within the same app.

» **Price:** Free

4 HDR Camera

Where HDR Camera shines is the range of colour options available. Users can pinpoint specific objects in their photos to exemplify their colours and then lower the colour range of other objects to create really distinct images.

» **Price:** Free

5 A Better Camera

A Better Camera includes various options for both your rear and front-facing cameras. There's some great contrast and colour options available as well as a selection of ratio options to create different-sized images.

» **Price:** Free

6 Camera Zoom FX

As well as the standard suite of different ratios and shooting modes, Camera Zoom FX includes a brilliant burst mode that enables users to take up to 50 shots within the space of ten seconds.

» **Price:** £1.79/$2.99

Competition

WIN! 5 ELGATO EYETV MICRO LIVE TV TUNERS UP FOR GRABS



Watch live TV on your Android device* with EyeTV Micro. Since the television signal comes from the attached telescopic aerial, you won't need an internet connection or a Wi-Fi hotspot to watch TV. EyeTV Micro never touches your data plan, so you can enjoy real live TV in brilliant quality without waiting for any data to load. EyeTV Micro is the only TV tuner of its kind to offer flexible antenna options. Position the telescopic antenna for great reception on the go, or connect the rod antenna in areas with poor reception – you decide. The proven MCX connector always ensures optimal signal transmission and prevents damage to the TV tuner or Android device.

*Competition closes 20/3/14
For full terms and conditions visit www.littlegreenrobot.co.uk/eyetv
Eye TV Micro requires a compatible Android device. For more information visit www.elgato.com

For more information visit www.elgato.com

To be in with a chance of winning one of five Elgato EyeTV Micro devices visit www.littlegreenrobot.co.uk/eyetv

Storemags

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storemags

Messages

Inside Android Magazine's virtual mailbag

Chromecast versus Now TV

Letter of the month

I'm wondering what's the big deal regarding the Chromecast dongle? I have recently purchased the Now TV box for a tenner and can stream any Android device media directly to it using the free PlayTo TV for Roku app from the Play store.

The Now TV box is just a paired down Roku player and within the Roku Store from the box's main menu you can add the PlayTo channel to your directory of available channels. Add in Sky's Catch Up service for five quid a month and Sky Movies on Demand and your bases are covered. Spotify Premium is also available as a channel if you already subscribe.

So far, I can stream just about any local media content from my Android devices, or any network content from my PC with the sharing option enabled in Windows.

Also, using the Firefox mobile browser I can stream internet video from my Nexus 7 or my phone. Easy! Who needs a Chromecast?

On a different topic, kudos to Sony for announcing the Xperia Z1 Compact. Finally, a top-spec handset in a pocket-friendly form factor! If it's released in the UK, I will definitely be upgrading to this 20.7 -megapixel camera phone in the summer. I look forward to Android



You can catch all your TV favourites through a variety of streaming devices

Magazine's review of the device soon. Regards,
Gavin Barnes

We say: We haven't yet tested a Now TV box, but we have tested various Roku devices and in our experience not every phone is supported when it comes to streaming from device to box. So that compatibility issue would need to be tested by anyone looking to buy. Otherwise, as you say, it's a versatile and inexpensive way to set up your home streaming system. We're looking forward to getting our hands on the Z1 Compact too!

Why can't updates be simple?

I bought a new handset (costing several hundred pounds) in June last year with Android 4.2.2 Jelly Bean installed. Now, just six months later, the latest version of Android is 4.4.1 and there has been no mention of whether an upgrade will be available from my handset manufacturer.

This is extremely annoying. Why should Android users be left wondering if they'll be forever stuck on an earlier version of Android and with a phone that is out of date before they even pay for it? I know the different network providers like to brand the software in their handsets but for those of us who don't like or want a binding contract and buy our handsets outright, we should be given the upgrade option once it becomes available.

When a service pack for a Windows version is made available, it works with every PC running that version of Windows, regardless of the hardware it is running on. Android updates are similar to service packs so why can't Android updates be installed in the same way?
Michael McGreevy

We say: The Android update process is frustrating and unsatisfactory. The main issues are that a separate build of the OS has to be created and tested for each specific model, so that if, say, Samsung has 20 different handsets it will need to produce 20 different builds rather than one that it can roll out across them all. Also many manufacturers feel that it is their skins that provide the most important part of the user experience rather than Android, and that there's no great clamour for updates. To an extent this is true when you get beyond the enthusiast users – even with the ease with which iPhone updates are rolled out, as many as a fifth of iOS users don't bother to update.

> "Many manufacturers feel that it is their skins that provide the most important part of the user experience rather than Android"

Get in touch!

Send us your thoughts on all things Android

»email
qa@littlegreenrobot.co.uk
Got questions or comments? Drop us an email and let us know

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Memory needs

I've read Android Magazine since issue 3 and subscribed a couple of issues later. Congratulations it is a really good read, and I do go back from time to time to read articles in back issues. I also subscribe to a Linux mag who offer subscribers the opportunity of a download PDF version of articles in back issues. Is this something you could offer as I need to clear out from time to time to make space.

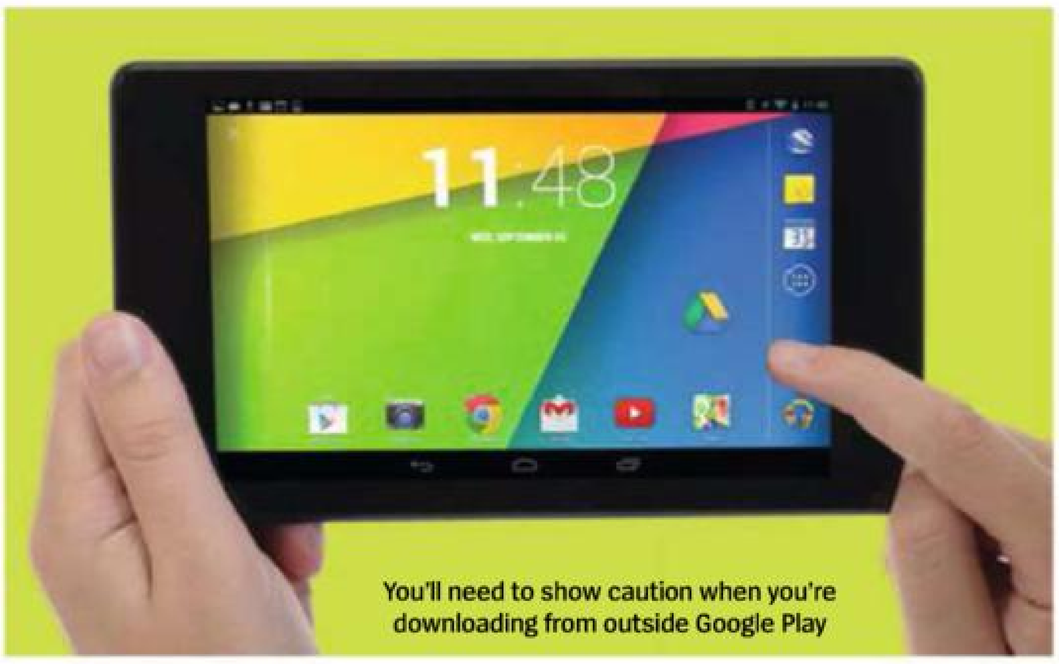
My first smartphone was a HTC Wildfire which at the time was adequate, however due to memory issues, I became frustrated with the memory requirements of many apps, which increase every time they are updated. Why do you not show the memory needs of apps when you review them? Users of older phones need this info. I bought the Motorola Moto X as a Xmas pressie for myself, a very impressive piece of kit for not a lot of money. Apple take note!
Harvey Skipsey

We say: We don't offer PDFs, but you can get the mag in digital form via the Play store. Also, the size of apps can differ between devices, plus the size of the app on the store is the size of the download not the amount of space that it will take up on the device.

WhatsApp on tablets?

I just purchased a Nexus 7 and am well-pleased with it. I was wondering if it was possible to install WhatsApp on it, so I paid a visit to Google Play. I found an app, 'Running WhatsApp on Tablet'. It states that it is not possible to install WhatsApp on Wi-Fi tablets but they offer a workaround. I was asked to install 'Appguard'. My Nexus then threw up a message stating that to download this software could seriously damage it, and by proceeding, they would be absolved of any damage to the tablet! At this stage, I took cold feet and backed off! My question is: is this a dangerous app and software or is it just Google keeping themselves right? It was an app from their Play store, after all! Keep up the good work! Great mag and my girls got me a year's subscription to it from last September! Saves me going out to look for it each month!
Ernie Swain

We say: The warning you saw was the standard warning that appears when you tick the box that allows Android to install apps from sources other than the Play store. It isn't a reflection on the app you were trying to install, although it's good practice to not download and install apps from the internet unless you know exactly what they are.



You'll need to show caution when you're downloading from outside Google Play

Bluetooth issues

I read the letters page about Bluetooth issues in issue 31 on phones running 4.2. I had the same issue with Microsoft Sync in my Ford – my HTC One would keep disconnecting and reconnecting. I eventually reset the phone to factory settings and reinstalled everything and the problem went away. No idea why!
Stephen Lowe esq.

Basics please!

I have on my Android devices little (actually, some quite large) things called 'widgets'. I have never seen any explanation anywhere of what these are and what they do. They just seem to be smaller (often larger) editions of the app with the same name. Your magazine is very welcome, but I find it a pity that there are so many pages filled with how to do unofficial things like hacking, on a limited number of devices, and few on articles to help those of us who, after 20 years of familiarity with Windows machines, find Android anarchic and baffling. Can you not have a kind of Droid for Beginners section, where the basics are explained? It seems that the OS being open source, and individual developers being able to customise it, contributes to the confusion. That's why Android For Dummies books are not a lot of use because they cannot cover every developers' idiosyncratic tweaks of the system. Any chance?
Jack Woods

We say: We try and keep things as broad and accessible as possible, so that everyone can benefit. We reviewed widgets recently in issue 32. You're right, they are mini versions of apps, and if you get the right ones on your home screens, they can be one of the most useful and enjoyable parts of Android.

TRENDING

Let us know your thoughts on these hot topics

- Do you stream media to your TV?
- Do you pay for in-app purchases?
- How many updates should your phone get?

Get in touch!
qa@littlegreenrobot.co.uk

CROWD SOURCE

Opinion from the Twittersphere

@lgrobot
Anyone remember INQ? They've closed down... inqmobile.com

@captainstu72 Ah yes, that horrendous facebook phone they made. Eurgh

@gavinlew i remember one of the inq phones, was available on 3 , my mum had one #memories

@lgrobot
Physical buttons, or onscreen buttons?

@flibblesan Onscreen buttons on a device with a thin bezel like the LG G2. Brilliant for watching video & playing games full screen.

@flub5568 I think phones should have physical buttons for the camera like the @sonyxperia has much better idea

@jdpjamesp Depends on the function. Physical camera button is really useful for example.

@UbuntuBhoy physical - I still miss real hardware buttons :(#StuckInThePast

@Peter_Vernelen onscreen with a didicated cam shutter button on the side.

@redbullcat onscreen, and if the camera is the focus of a phone, a hardware camera button. If not, use the volume key button.

@captainstu72 I do miss trackballs.

@lgrobot
If you could change one thing about Android OS what would you change?

@phoneaholic316 android should have its own version of siri but with a wittier more upbeat attitude

@amugofjava @phoneaholic316 @lgrobot Have you not asked Google Now "What does the fox say" then? :)

twitter
Follow us @lgrobot to join in the conversation

filemagz.com

30 AMAZING KITKAT SECRETS

✔More speed ✔Better battery ✔Hidden settings ✔Now for S4, HTC One and Moto G



Continuing its confectionary-based naming system, the latest version of Android (4.4) is known as KitKat, and when it hits your phone it will bring with it a collection of great new features. There are the standouts, like the new Hangouts app replacing the old Messaging tool, built-in suport for all your cloud services, and the new Google Experience Launcher complete with the enhanced Google Now.

But there's also a whole host of features hidden away in the OS that enable you to get a whole lot more from your device. There's the new app runtime that significantly speeds up your apps; the enhanced Gallery tool which, even though it looks set to be replaced by Google+, is now an incredibly powerful image editor, and there's a whole host of hidden UI tweaks that make Android even more pleasurable to use. In this feature we'll guide you through some of the best features that you may have missed.

But first, when will your phone get this tasty new update? Launching initially on Nexus 5 devices, KitKat has been rolled out to other handsets and manufacturers faster than previous updates. Many still find the process slow, however, and there are plenty of custom ROMs featuring KitKat features available to download on the web. If you're impatient, a trip to **XDA-Developers.com** will tell you whether a cooked version of KitKat is currently available for your handset.

LG manufactures the Nexus 5, but surprisingly its older handsets (such as the flagship LG G2) have no KitKat updates available in the UK at the time of going to press.

With Motorola owned by Google, you shouldn't be surprised to find that its phones are already receiving updates. The Moto G has an update available now, although older devices such as the Droid Ultra, Maxx and Mini currently don't. They have been updated in the USA, however. The Moto X launched in the UK with KitKat pre-installed – no update necessary!

Samsung Galaxy Note 3 owners should check for an update as soon as possible, as this device has been reported to be receiving updates since the

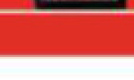
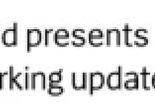
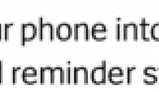
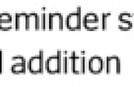
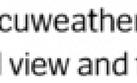
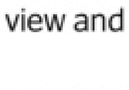
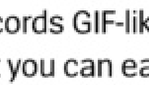
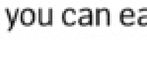
New Year. The Galaxy S4 is expected to receive updates from the end of January, as are other devices in the range (Active, Mini and Zoom). HTC One owners (as well as those with the HTC One Mini and HTC One Max) should start receiving their updates at the end of January, according to a spokesperson for the company. If you have the Google Play edition HTC One, however, then you should have been running Android 4.4 KitKat since November 2013. HTC One S and One X devices won't be updated, making these prime candidates for CyanogenMod ROMs sporting KitKat features.

According to Sony, the entire 2013 Xperia range will be getting an update to KitKat, but the electronics giant has omitted to confirm what the rollout schedule will be.

Neither Huawei, Acer or ZTE have made any announcements concerning updates, while Asus (manufacturer of the KitKat-ready Nexus 7 tablet) is also silent on when its other devices will be added to the list of KitKat devices.

If you own any of these devices, it shouldn't be long before the KitKat update is available. The update takes place over-the-air with a wireless connection and introduces a wealth of new features, including the ability to start Google Now with the command "OK Google" from any home screen, and improved multitasking. The immersive, full-screen view is another welcome bonus – just one of many, as we're about to show you...

When will you get KitKat?

TIMELINE FOR THE ANDROID 4.4 ROLLOUT			
DEVICE		CHANCE OF BEING UPDATED	ETA
	Samsung Galaxy S4	Confirmed	Check now!
	Samsung Galaxy Note 3	Confirmed	Check now!
	Samsung Galaxy S III	Very likely	Estimated March
	Samsung Galaxy Note 2	Very likely	Estimated March
	HTC One	Confiirmed	Check now!
	HTC One Mini	Confirmed	Expected Q1
	HTC One Max	Confirmed	Expected Q1
	Sony Xperia Z	Confirmed	First half 2014
	Sony Xperia Z1	Confirmed	First half 2014
	Sony Xperia Tablet Z	Confirmed	First half 2014
	Sony Xperia Z Ultra	Confirmed	First half 2014
	Sony Xperia SP	Expected	Mid 2014
	Nexus 4	Confirmed	Out now
	Galaxy Nexus	None	N/A
	Nexus 7 (2012)	Confirmed	Out now
	Nexus 7 (2013)	Confirmed	Out now
	Nexus 10	Confirmed	Out now

NEXUS 5 VS OTHER KITKAT PHONES



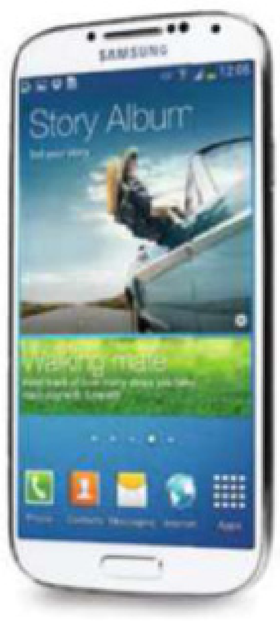
Nexus 5

- ✔ Google Now page is built directly into the home screen
- ✔ New KitKat Dialer will display the identity of incoming calls from companies not in your contacts list
- ✔ No infrared for remote control options
- ✔ Free from carrier bloatware, Android in its purest form, as Google intended

HTC One

- ✔ HTC BlinkFeed presents curated social networking updates in easily digestible chunks
- ✔ Turning your phone into a remote control and reminder system, HTC TV is a useful addition
- ✔ HTC Sense UI provides quick access to Accuweather data from the Blinkfeed view and from the app drawer
- ✔ HTC Zoe records GIF-like short movies that you can easily loop and share





Samsung Galaxy S4

- ✔ Dual Shot, Sound Shot and Drama Shot camera options for memorable photos
- ✔ S Translator makes it easy to communicate when you're travelling abroad
- ✔ Use Air Gesture for hands-free smartphone interaction
- ✔ Samsung WatchON turns your smartphone into a multimedia remote control

Moto G

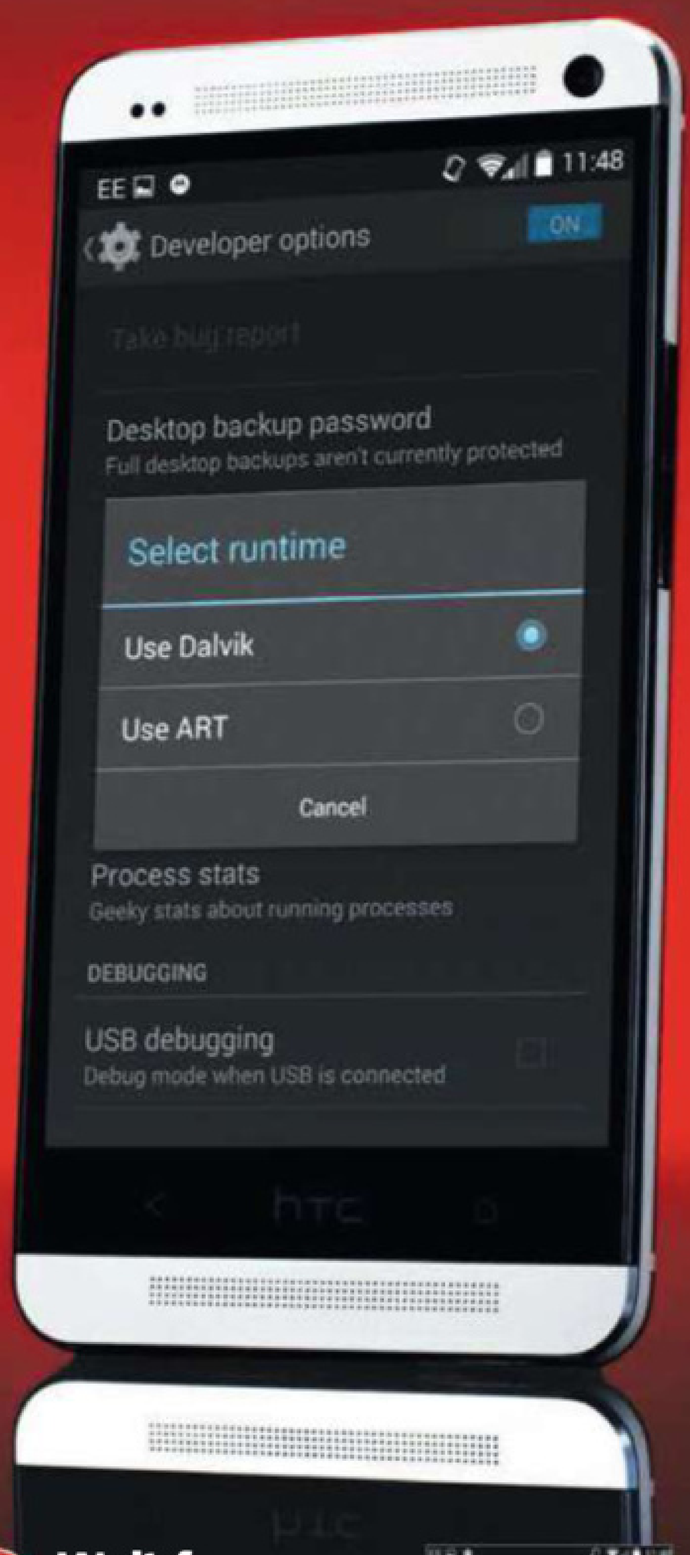
- ✔ Moto Assist automatically silences the ringer in meetings and at night
- ✔ Photo Sphere camera app on standard Moto G, stock Android camera on Google Play Edition
- ✔ Trusted Bluetooth saves time adding Bluetooth devices you trust to your phone
- ✔ Built-in access to Motorola Care, instant chat and telephone support via the Help app



SPEED AND PERFORMANCE IMPROVEMENTS

How switching to ART can give you a real speed boost

Android can be slower than we might like it to be. We know this, the device manufacturers know this, Google knows too. Over the last couple of years, the Android development team have been working on Android Runtime (ART), a new method of handling how apps run. Currently, this role is filled by Dalvik, and this has been the case since the first Android phone was released in 2008. Clearly Dalvik is capable of doing the job, but ART offers a new, faster alternative. As things stand, apps are compiled when they're run using the just-in-time (JIT) compiler, but with ART the apps are compiled when they are installed thanks to ahead-of-time (AOT) compilation. The implication is that apps become more like native software. They should be quicker to launch and use less battery, perhaps by requiring fewer cores. It sounds good, doesn't it? You can switch to ART on Android KitKat – but beware, it might not turn out to be as good as you'd hoped. At this point, ART is little more than a toy, an experimental preview that Google has included in Android 4.4 KitKat. Should you activate ART and assess how it runs your apps? It's up to you. Some may speed up, others may slow down or fail to run at all. Until ART is optimised we can only guess at how much its eventual introduction will enhance Android. Estimates suggest that app launch time can be halved and animations will be smoother. ART isn't all good news; there are some drawbacks, such as the increased storage requirements for installed apps and longer installation times. On modern KitKat-capable (and later) devices, however, these shouldn't be issues.



How to switch to ART

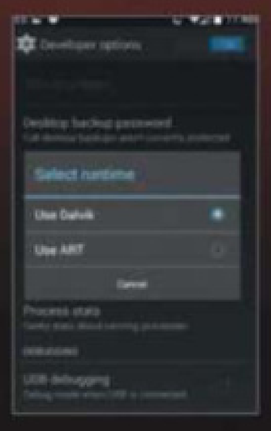
1 Find Developer options

Developer options must be enabled to switch to ART – this may be hidden on your device. To reveal the option, open Settings>About Phone and tap the Build number field seven times.



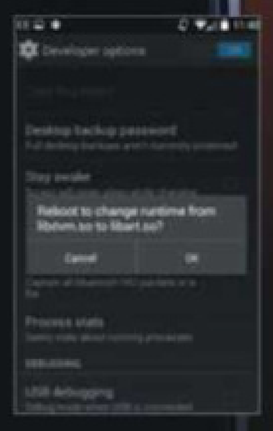
2 Enable Android Runtime

In Settings>Developer options, tap Select Runtime and choose Use ART. Click OK to confirm – your phone will be restarted in order to make the necessary changes. This may take some time.



3 Wait for the reboot

As your device reboots, it will display a message informing you that "Android is upgrading" as your apps and services are optimised to run ART. Once Android starts, your phone should be much faster!



Speed improvements in KitKat

What are the differences in speed between ART and Dalvik?



AnTuTu Benchmark
Dalvik scores **16719**
ART scores **17431**
ART is **5%** faster

Linpack
Dalvik scores **137/305**
ART scores **170/379**
ART is **24%** faster

Vellamo (Metal)
Dalvik scores **539**
ART scores **540**
ART is **1%** faster

Limitations to ART

Switching to ART is a good idea if you want to see how fast Android might become, but while your phone's overall performance might improve, if apps you rely on in day-to-day life no longer work (such as WhatsApp or Rdio) then switching to ART doesn't make sense. Furthermore, there are some custom ROMs that don't support ART. If you're flashing ROMs and want to use Android Runtime, find an up-to-date CM or AOSP ROM.

UI ENHANCEMENTS IN ANDROID KITKAT

Enhance messages with Emoji

A vast selection of new Japanese-style Emojis have been added to the messaging system in KitKat, which you can add to SMS, MMS and messages sent to your Google Hangouts contacts. Emojis are also available for Gmail messages.

KitKat prioritises your contacts

Make regular calls to the same people? When you tap the Phone button, Android will display a list of your most regularly called contacts. If you have photos added to your contacts list, it shouldn't take you long to spot the person you want to call with a single tap. If the person you're looking for is missing from the favourites, you can tap All contacts to browse your full address book.

Create a new home screen

If you've run out of space with the existing home screens, you can quickly extend it and add apps and widgets to it. Do this by opening the app drawer, long-tapping the app you want to add as a shortcut, and holding it in place as the home screen appears. Drag the app shortcut to the very edge of the right-most home screen to add a new screen, and release to drop the app into place.

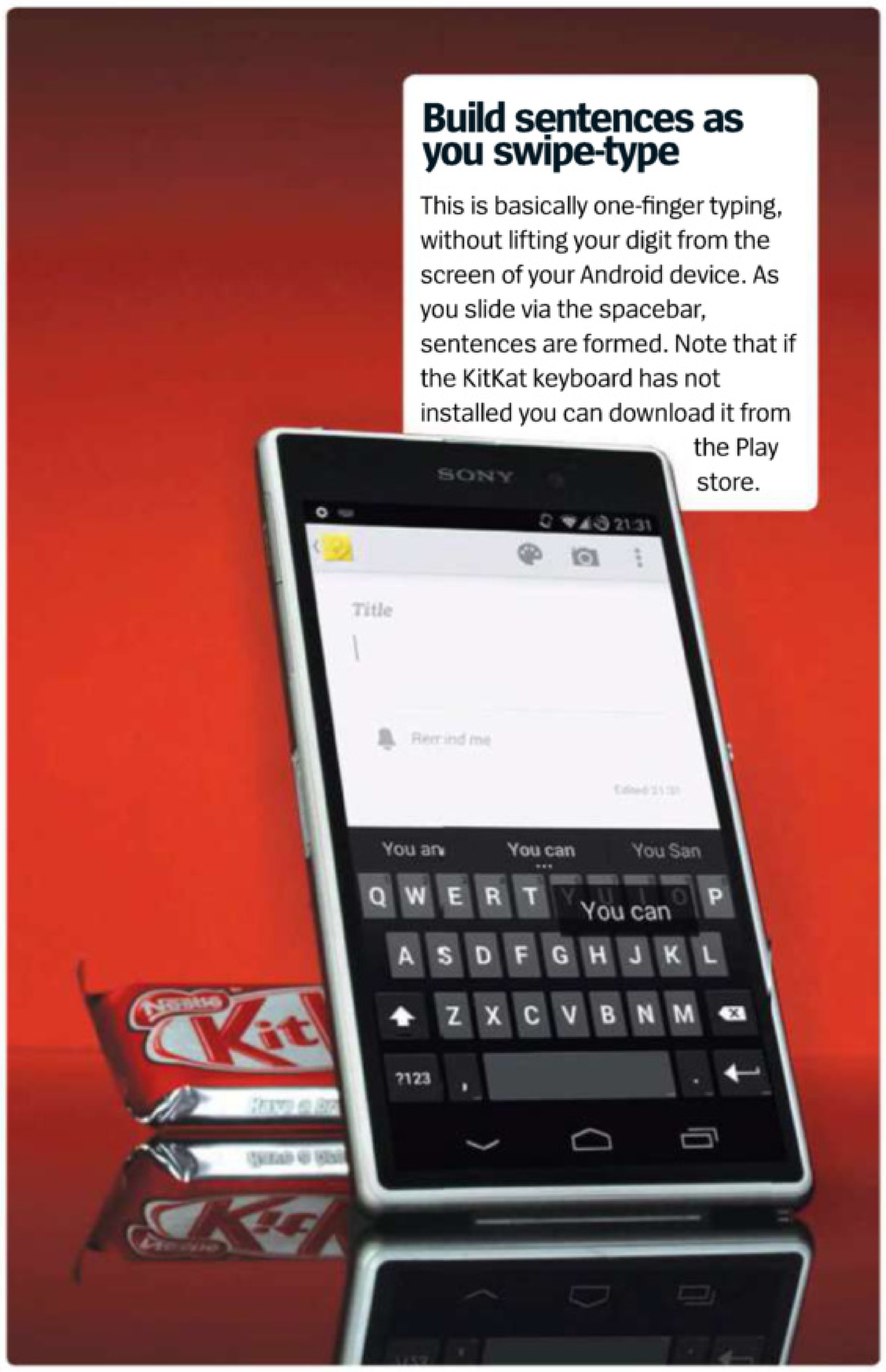
> "You can quickly extend your home screen and add apps and widgets to it"

Edit the order of screens

With the option to create many home screens, you may want to change the order in which they are displayed. This can be easily done when adding a shortcut on some devices – instead of dragging the shortcut around, long tap one of the home screens and pull it into the preferred order.

Get closed captioning

Should you need closed captioning to help you use apps, this can be enabled in Settings>Accessibility> Captions. Language, text size and caption style can be configured.



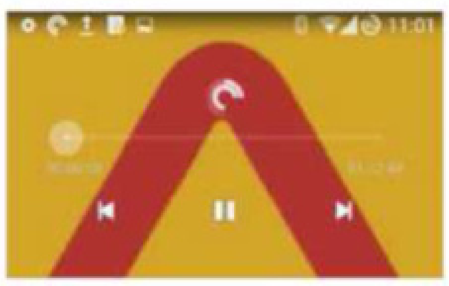
Build sentences as you swipe-type

This is basically one-finger typing, without lifting your digit from the screen of your Android device. As you slide via the spacebar, sentences are formed. Note that if the KitKat keyboard has not installed you can download it from the Play store.

Get fit with the step counter

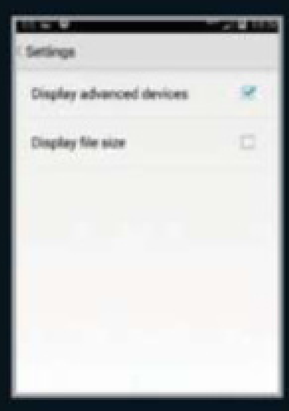
Included in KitKat is the step detector and step sensor, two tools that enable fitness apps to track walking, running and stair climbing. Several new apps have been developed to take advantage of this feature, including Runtastic Pedometer.





Improved lockscreen art options

If you're streaming music from the web or Google Music, or sharing video files via Chromecast, the new KitKat lockscreen will display the album or movie art in full-screen view. In some apps you can also hold down one of the buttons to seek within a track or podcast.

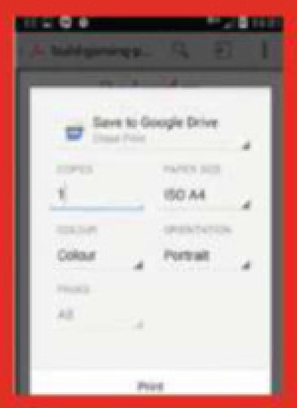


Easily find your files with a centralised file manager

Centralised file management makes it easy to find, move, copy and launch all of your data. Cloud storage is integrated with the file picker, while SD card data can be added by opening Settings> 'Display advanced devices' when using the file picker (for instance, when adding a profile image).

Wireless printing on the go with KitKat's new compatibility

Do you own a wireless printer? KitKat features the ability to print to such devices from anywhere on your network. All you need to do is open the document in Quickoffice, select Print and configure the paper size, orientation and number of copies. Tap Print again to start printing.



NON-DESTRUCTIVE IMAGE EDITING IN GALLERY

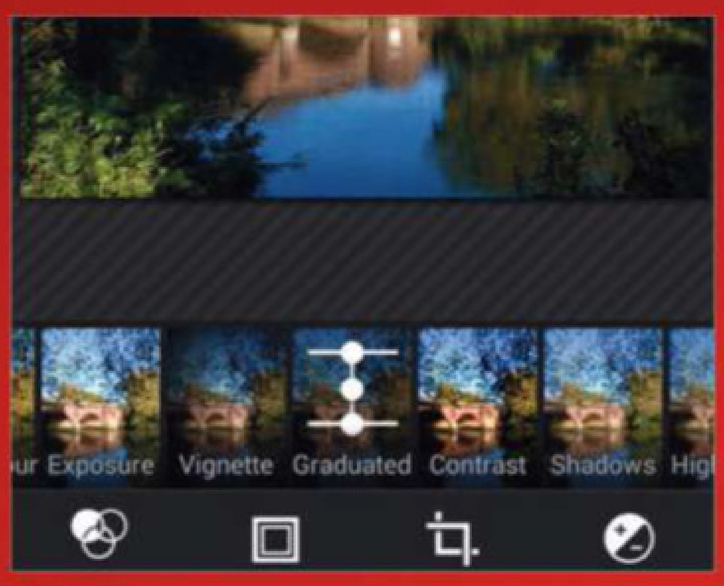
Every new version of Android brings important changes, and the new Photos app in KitKat is an important addition. Don't worry about the changes, however – while Photos is easy to use, the old Gallery app is still on board and has been enhanced with some interesting new features.

Sharing options and an improved editor have been added to the Gallery, making it easier to add filters and frames, to straighten and rotate and to alter the colour settings on any photos or images saved on your phone. Coupled with an improved user interface, the sharing options enable you to send images off via email, through social networks or bookmark them. You can even add them to cloud storage, notepad apps, Picasa or other apps you have installed. Of particular interest in the Gallery app are the new advanced editing features such as Curves and Graduated filters.



1 Open your image for editing

You won't be able to edit an image in the Gallery if it hasn't first been snapped on your phone. To begin editing, open Gallery, select the Camera folder, choose an image and tap the pencil button in the lower-left corner.



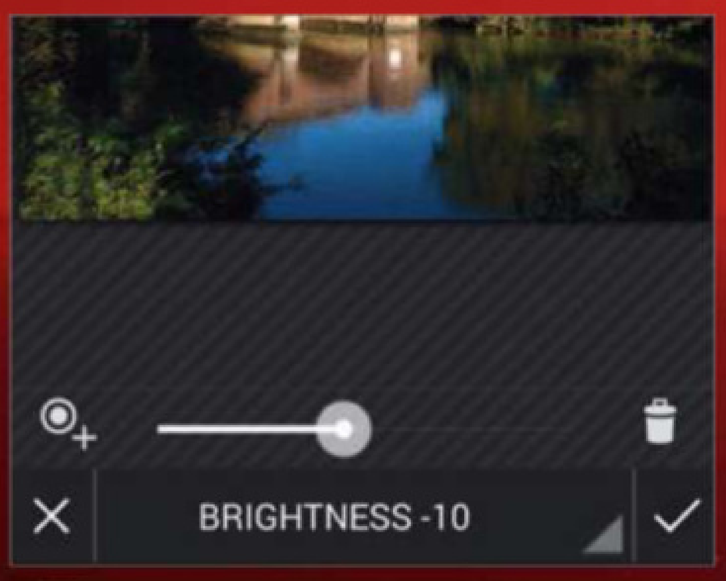
2 Advanced image editing tools

The option in the bottom-right corner (a black and white disc with '+' and '–' symbols) opens access to the various advanced image editing features. Here you will find controls to create vignettes, or alter the exposure of your image.



3 Using sliders and overlays

If you want to create an old-fashioned vignette, alter the brightness of a Graduated section of your photo, or use Curves to alter the colour balance – overlay tools are provided to help you get the results you're looking for. Have a play around to get perfect results.



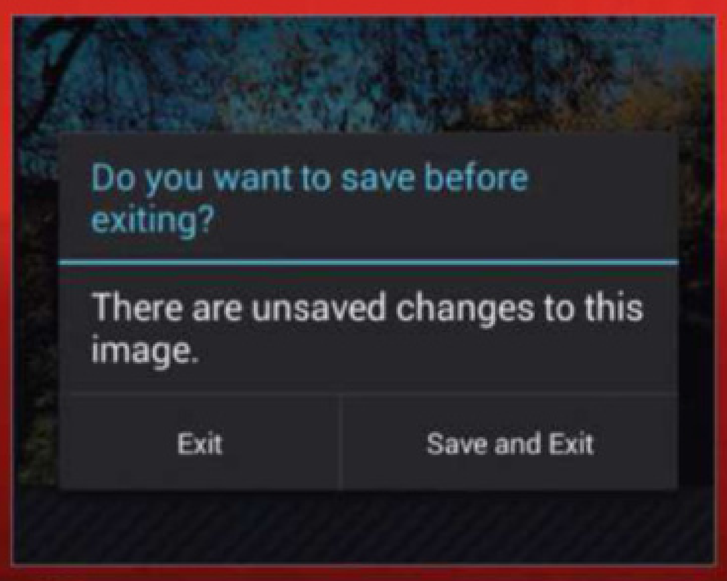
4 Don't confirm until you're sure

Every change you make to your image remains a review until you tap the all-important tick button. At that point, the edit is applied, and can only be undone using the undo button at the very top of the user interface.



5 Colour control with Curves

With the Curves tool you can radically alter a photograph. The default setting is RGB, but by selecting a single colour you can enhance it, often with striking results, simply by altering the position and direction of the line.



6 Saving your changes

When you're happy with the edits you have made, you can keep these safe by saving as a new image file. Simply tap the Save button in the top-left corner of the app, which will add the new photo to your Gallery. And that's that, you've mastered non-destructive image editing.



"Making it easier to add filters and frames, to straighten and rotate and to alter the colour settings on any photo"

Quick 4.4 tips

- Google Now can become a powerful personal assistant if you take the time to configure the Settings, found in the bottom-right. Note that deep linking in Google Now lets you launch installed apps by tapping on relevant results.

- Many phones ship with an IR sensor and KitKat has various options for this. Some manufacturers, such as HTC and Samsung, have used the IR sensor to create multimedia remote control apps.

- The Quick Settings panel can be accessed as usual by swiping down the notifications pane and hitting the icon top right. However you can also open it straight away by swiping down with two fingers.

- In the Quick Settings screen, a long-tap will toggle connectivity options while a quick tap will take you to the main settings. A Settings shortcut button is also provided. More detailed notifications are provided, useful if you're trying to work out why your phone is alerting you for apparently no reason.

- Finding and managing Downloads has been made easier thanks to an enhancement to the old app, which makes it easier to sort and select photos, documents and other files you download.

- Find lost phones using the Android Device Manager, which is enabled by default.

- Android KitKat features a much-improved lockscreen with usable integrated music playback controls.

BATTERY LIFE IMPROVEMENTS

Regular use of your KitKat Android device will naturally reduce the battery life, but there are various simple ways in which you can minimise this. We've listed our favourites in the table below...

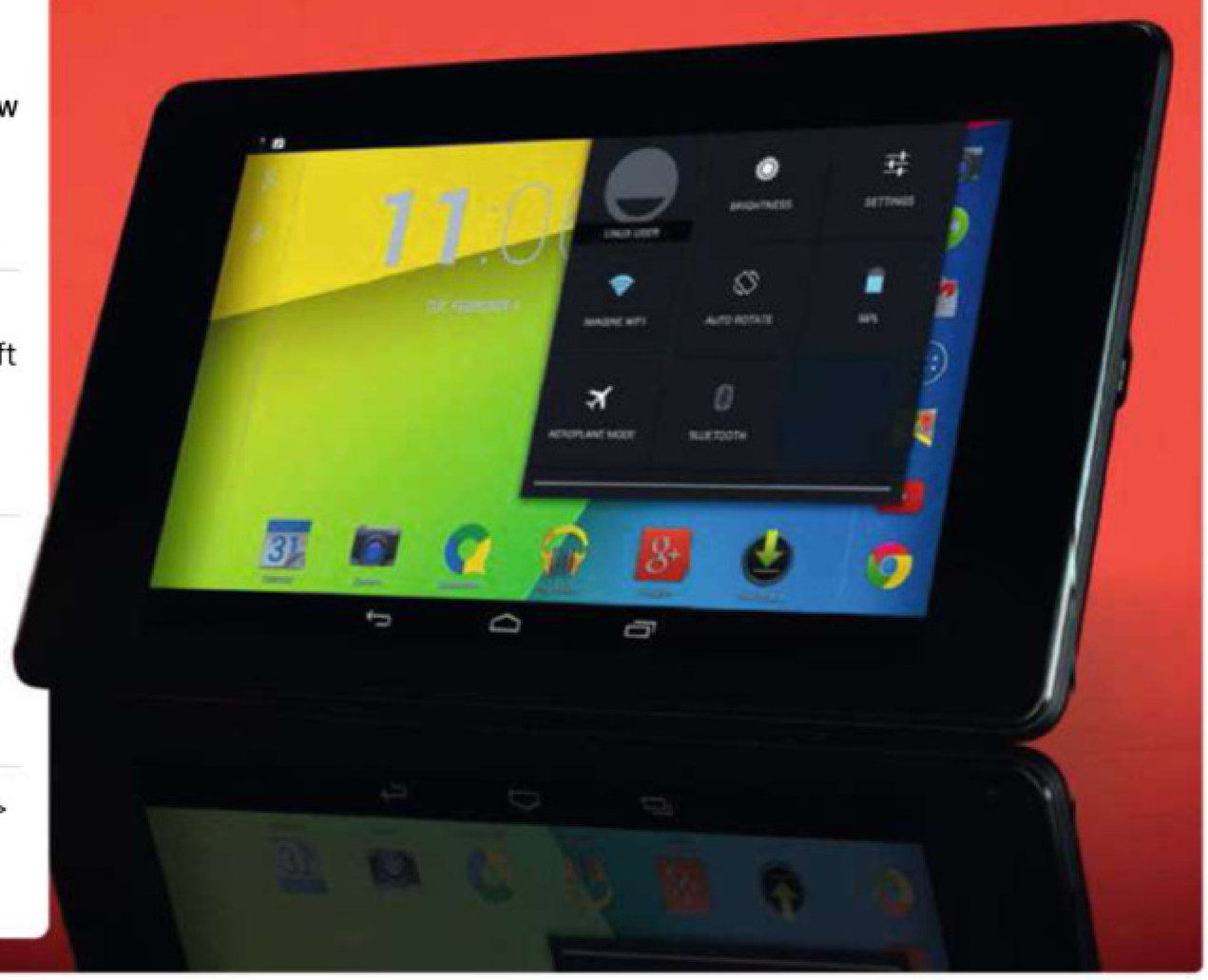
Top battery tips

- To assist with Google Now and location services, Wi-Fi is switched on by default. Save battery by disabling it.

- You can check the percentage of battery life left by opening Quick Settings. Using Android Runtime can slow battery drain.

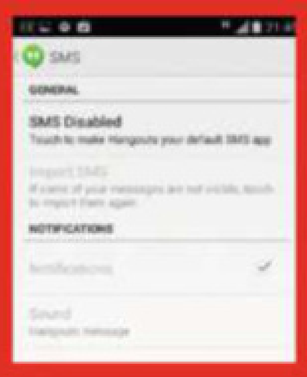
- Disable Google account syncing (Settings> Accounts>Configure manually) so that only your Gmail syncs can also help.

- Open Settings>Location> Mode to disable GPS and Wi-Fi triangulation.



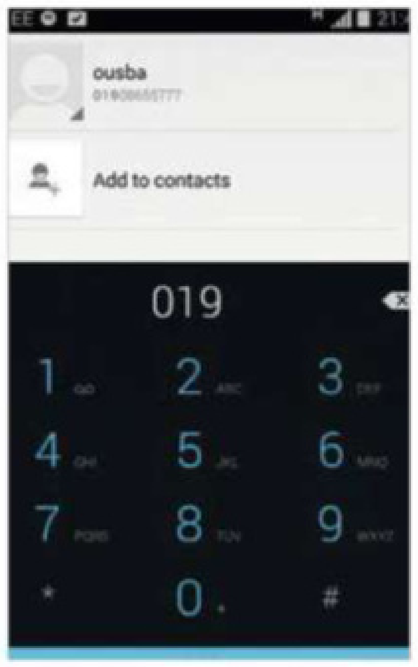
A new text app

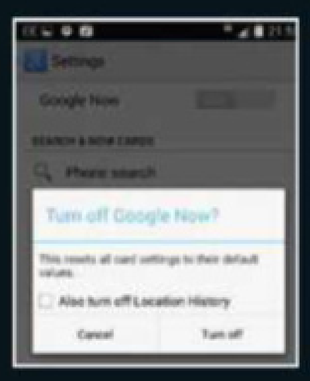
SMS and MMS have been incorporated into Google Hangouts. To disable, open Hangouts, tap menu and select People & options. Here, select menu again then Settings>SMS>SMS Enabled.



Who's calling?

The new KitKat dialer app offers big buttons for dialing numbers and a quick search tool where numbers and names can be entered. Perhaps its most notable feature, however, is the internet-based caller ID system, which checks incoming calls on the web in an attempt to identify the caller – helping you to avoid unwanted calls.



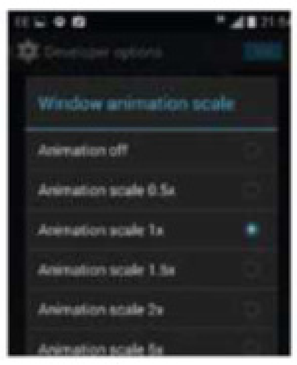


Don't really need Google Now?

Google Now is useful, but not vital. It can be disabled by opening the screen, tapping the menu button in the lower-right corner, and switching Google Now to Off.

Speed up animations

Open Settings>Developer options and open Window animation scale, changing it to 0.5x. Repeat for Transition animation scale and Animator duration scale.





Select GPS mode

In Settings>Location> Mode you will find a trio of options that are used to determine how accurate you want GPS to be. Device only is limited to using GPS to find your location, while Battery saving uses Wi-Fi and mobile networks. High accuracy uses all three methods, but beware as this will have an impact on your phone's charge.

ANDROID EVERYWHERE

We look at how Android will soon be powering everything you own

If the Android little green robot was an anthropomorphic being, we would perhaps be running a little scared right now. With fingers in many a pie, Android is on a path of world domination. Not content with being the number one smartphone operating system, it is infiltrating a host of gadgets and devices. But the good news is that this will benefit humankind to a great extent, which will come as something of a great relief.

Android is set to be at the centre of something referred to as the 'Internet of Things'. Televisions, watches, cars and cameras are just a few of the items that will have our favourite OS at its core. Android is fast emerging as a standard for multiple industries and not just for phones and tablets. It is taking a role which, traditionally, belonged to Linux and the spin off from this is mass compatibility. Don't believe us? Let's look at the evidence.



Driving cars

Driverless cars are still some way off but Android is set to power lots of in-car systems this year thanks to a deal struck between Google and some of the world's key car manufacturers.



Expanding watches

Watches aren't just about telling the time (and they've gone beyond Casio calculator functionality too). Android-based watches can let you make calls and read texts on your wrist.

StoreMags.com



Powering computers

Whether it is replacing Windows and OS X with an Android OS that delivers on cost and performance, or running side-by-side with Microsoft, Android is proving to be a viable alternative.

Home automation

The Internet of Things is now upon us and the open source nature of Android allows for lots of different appliances in your house to be linked together, potentially creating a seamless home life.





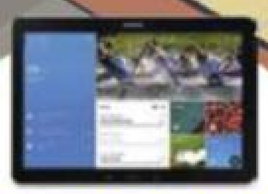
App-based TV

Smart televisions get smarter when they run via an Android system. With applications to allow for browsers, YouTube and catch-up services, unwanted repeats can be a thing of the past.

Boosting health

It's not always about what you can see but what's going on within. Android is used by a growing number of health-based gadgets, letting you assess your underlying health within seconds.





Enhancing tablets

Android's open nature means some manufacturers can work on staying at the forefront of modern technology with higher-specced tablets for professional, power-hungry users.



Perfecting cameras

Some believed phones and tablets had made the camera industry irrelevant. But we're seeing some wonderful cameras being released that offer amazing Android functionality.

ANDROID REPLACES THE PC



Android is set to compete with Windows

For some time now, computer operating systems have tended to mean one of three things: Windows, Mac OS X and Linux. The dominance of the first two in particular has made it difficult for others to get a look in, but the wind is changing and now we're seeing Android making major in-roads on laptops and desktop PCs.

Evidence of this was in abundance at CES in Las Vegas in January. Intel has been working hard for a while to port and optimise Android for PCs and we saw some PCs being unveiled that use Android as a standalone operating system.

Based on the Linux kernel, this has been made possible by the Android x86 project, which has taken the open source OS and configured it for use on the x86 chips found in everyday computers.

That said, we're still a way off from the days when people will ditch existing operating systems in favour of Android for their computers, so where Android is set to have more of an impact is as part of a dual-OS system with Windows. Again, we saw many examples of this at CES. Android apps can run within a Windows environment using virtualisation techniques. And AMD is in on the act in a collaboration with BlueStacks. Bringing the Android OS experience to Windows tablets, notebooks and desktops, there is support for hundreds of thousands of Android apps.

For Android, this is a smart move. People will become ever more used to using its apps and cement its position in the entire mobile-tablet-computer space. We suspect to hear a lot more about Android PCs over the coming years.

Android in desktops and laptops



Asus Transformer Book Duet

As the world's first quad-mode, dual-OS laptop and tablet convertible, users can switch between Windows and Android systems with the push of a single switch button or virtual key.



HP Slate All-in-One Desktop PCs

With whopping touchscreens – the 21-k100 has a 21-inch monitor – these computers provide an alternative to Windows. Running Android, they sit on a desk and come with a keyboard and mouse.



Lenovo N308 All-in-One

Boasting a 19.5-inch touchscreen that is only 1.3 inches thick and unveiled in January at this year's CES, this all-in-one computer runs Jelly Bean and has up to 500GB of hard drive space.



Acer DA223HQL

This Android desktop is the first to pack a built-in battery, offering mobility from room to room. It features a full HD edge-to-edge screen with wide viewing angles and content can easily be synchronised across devices.

PRO TABLETS

Not content with producing tablets that are merely aimed at a mass consumer audience, some manufacturers are upping the ante and aiming products at professional users. Samsung is at the forefront here with its Galaxy NotePRO, which is said to bring premium style and powerful performance to the tablet market.

Pro tablets have handy, advanced features. The HP Slate 8 Pro has HDMI output, for instance. But to see true performance, we need to look at the NotePRO, which has the world's first 12.2-inch WQXGA widescreen display with a resolution of 2,560x1,600. The screen is a perfect size for magazines and ebooks but also for tools that enhance the Android experience including Multi Window, which lets the screen be split into four parts. It also comes with an S Pen designed for greater usability. Samsung also has a TabPRO range of various screen sizes, which is like the NotePRO but without the stylus. Again it's high-end. And that's great: too much attention has been placed on the bottom end of the market in recent months, but here we are seeing tablets really moving into the PC and Mac space.



TV

Television has changed. It wasn't that long ago when UK viewers had only four terrestrial channels and a VHS player. But with broadband bringing video-on-demand and satellite, cable and digital television allowing for multi-channel homes, we're also seeing smart televisions and hardware from all kinds of sources.

Many of these are based on Android technology. Google TV is set to be rebranded as Android TV, giving it access to Chrome, YouTube and Google Play where there are lots of optimised apps such as BBC iPlayer. Google also has Chromecast. Available in the US for just $35, it brings a host of entertainment from Netflix, YouTube, Google Play Movies and Music, Chrome and Hulu Plus.



Plugged into a TV and hooked up to an Android tablet or smartphone via Wi-Fi, users can control playback and volume via their devices.

Indeed, the Android OS can be hooked up to many systems. Now TV by Sky supports Android, Google is said to be considering awn Android-powered Nexus TV box and Lenovo has introduced a 55-inch smart television running Android 4.0 that has 100 apps pre-installed. Never say there is nothing on TV again.

FITNESS AND HEALTH

There have, for some time, been many gadgets to help people optimise their fitness and wellbeing. Pedometers, scales that save data to a USB stick and heart rate monitors have proved very useful. But with Android, these devices have become far smarter.

Today, any fitness or health device worth its salt will have Android at its heart or, at the very least, be compatible with an Android app. It enables us to have access to data that just wasn't available before. Now we can access information that brings together many different facets of our health so that we can view the overall picture in an instant.

Whether it is the Fitbit Flex, which tracks your steps, travel distance and calories burned, the Zepht HxM Bluetooth Heart Rate Monitor that links to Android via Bluetooth and shares data, or the Nike+ Fuelband SE and its colourful way to show when you are reaching a set daily target, Android is making a huge difference.

The OS is being used to make us more informed. It's great to be able to step on Withings Smart Body Analyser, for example, and have data detailing your body fat, heart rate and even air quality, wirelessly and effortlessly sent to your Android device.

And you need not spend a fortune either. "What Android has done in the fitness space is create a level playing field," says Jeremy Green, principal analyst, in industry communications and broadband for Ovum. "Makers of these devices and their associated software can spend more time and money on the gadgets themselves knowing that Android can help them to attain a high standard with much less effort than it used to entail. It means devices that cost around £30 are not that far removed from those costing much more. Android is the missing link."

Green believes Android fitness gadgets will help people to achieve far higher levels of health than ever before. We're not far away from allowing our GPs to keep a check on our health to spot any telltale signs. But we wouldn't bet against your new Android accessory spotting them first.

Health and fitness is a major growth area for mobile devices

Four of our favourite Android-reliant fitness accessories

Jawbone UP



With a wristband that connects to an Android app, you can keep track of sleeping patterns, sleep time and even the intake of food and drink. The data is carefully analysed to monitor your overall health.

Tinke heart monitor



By keeping a finger on an external monitor, you can measure your resting heart rate, blood oxygen levels, respiratory rate and heart rate variability and have all of this data available on your Android device.

Razer Nabu



This fitness tracker also doubles as a smartwatch. It has a built-in accelerometer so it can work out how far you have travelled, the calories burned and steps taken but it can also receive notifications.

Kolibree toothbrush



As the world's first internet-connected toothbrush, the Kolibree senses the length of time you are brushing and, in linking to your Android smartphone via Bluetooth, tracks your teeth cleaning performance.

Storemags con

Cameras

Android phones and tablets have cameras built-in but the OS is also used to power standalone snappers. By concentrating Android's power on getting the most out of photos, greater attention can be focused on images. Users can edit images direct on their camera, share photos with others via a network connection and have touchscreen control.



Samsung Galaxy Camera 2

This follow-up to a much-loved debut camera is a wonderful all-rounder, packing a 16.3-MP, 1/2.33in sensor in a package with a 1.6GHz quad-core processor and 2GB RAM. It uses Android 4.3, has a 4.8-inch display with 308ppi and you can transfer pictures from the camera to an NFC phone.



Nikon Coolpix S800c

Created by camera experts Nikon, this camera enables apps to be downloaded from Google Play. It has a 16-MP sensor, 10x zoom and 3.5-inch OLED as well as full HD videos, but the fact that a major camera manufacturer sees the benefits of introducing Android shows the impact the OS is making.

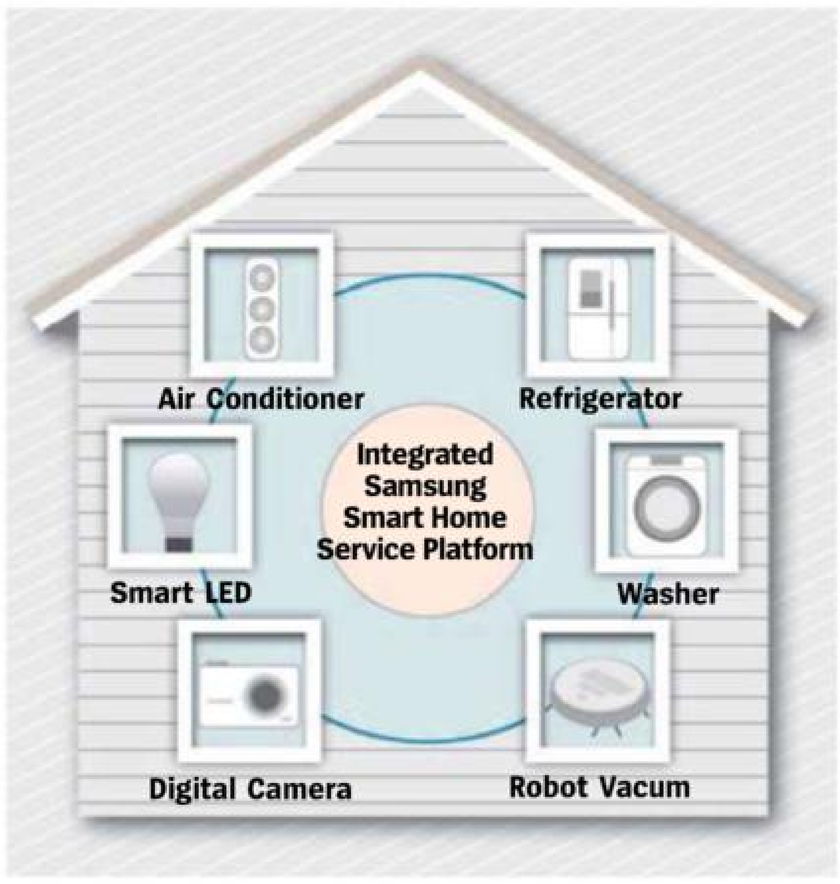
THE ANDROID POWERED HOME

Bundling Android into smartphones, tablets, computers and consumer gadgets is not enough for some. There are companies, such as Samsung, who want to see Android built in to pretty much anything they can think of in your home. Home automation is big news. Google has laid down foundations, and Samsung, as part of its Smart Home service, aims to bring your home appliances together, integrating them with familiar Android devices and creating a single integrated platform in the process.

It means a future in which your fridge, washing machine, television, phone, watch, camera, air conditioning unit, light bulbs, vacuum cleaner and more can be controlled individually or together via an app. It is similar to the Archos Connected Home which links to an Android app.

With these systems, you'll be able to use built-in cameras in appliances to view your home and stay in control even if you're out of the house. There will even be voice control. You'll be talking to your fridge in no time. "It will improve energy usage and security," says technology analyst Robert Enderle. "It will also increase convenience."

Although Enderle has some concerns with privacy, he also believes it to be exciting and inevitable. "Home automation and security was one of the themes of CES and Google's move to buy Nest should drive even more interest to the category," he says, referencing Google's acquisition of thermostat maker Nest Labs for £2 billion, which will give the tech giant more than a foothold in the home automation industry. Android will be a key driver in all of this and Google has made mention of it before. In 2011, it announced an initiative called Android@Home which considered a household as an Android accessory. Apps, Google said, would connect and communicate with appliances and devices. Prepare to be amazed.



It won't be long before Android has completely invaded your home, and Samsung will be leading the way

RISE OF THE SMARTWATCH



2014 is going to be a big year for wearable tech

We're still in the dark over whether Apple will ever bring out its much-hyped iWatch. But even the mere hint that it might has seemed to kickstart a revolution.

In 2012, a Kickstarter project for an Android-compatible watch called Pebble attracted the most funds ever (a staggering $10.2 million even though it only asked for $100,000). Samsung got tongues wagging with its Galaxy Gear too (it's not perfect but it's out there). We've also seen the Sony SmartWatch, the MotoACTV from Motorola and even good old Casio come in on the game over the past couple of years.

But wearable tech is going to be a major growth area in 2014 and, with Android already leading the way and Google set to produce its own, we know where the smart money is going. Having the ability to make calls via Android on your wrist like Michael Knight from Knight Rider and getting notifications and alerts make smartwatches a convenient tech and they look like they are here to stay for a while.

Android-powered smartwatches

Pebble Steel



This is a more visually appealing version of the Pebble smartwatch, which lets you view notifications from your Android phone without needing to keep whipping out the handset.

Samsung Galaxy Gear



Whereas the Pebble doesn't allow for calls, the Galaxy Gear does. You can check emails, use the camera and view notifications.

Martian Notifier



As one of the more fashionable smartwatches, you can choose alerts, have alarms, control the camera shutter and even use it to find your phone.

ANDROID IN CARS

One of the most exciting things to happen to the motoring industry for a number of years is news that Google, who acquired the crowd-sourced traffic app Waze last year, is making in-roads in its mission to bring the Android operating system to vehicles in 2014. It has formed the Open Automotive Alliance with the aim of incorporating 4G internet in cars, and so far Audi, Honda, Hyundai and General Motors, who make Vauxhall vehicles, have all signed up.

Cars will have bespoke apps that are geared up for motoring. They will include entertainment apps for passengers and navigation, the latter being connected to Google Maps and therefore regularly updated and offering real-time information. "The car is becoming the ultimate mobile device," says Thilo Koslowski, an analyst at the research firm Gartner.

Hooked up with your Android mobile, cars will offer hands-free calls, enable you to control car functions using your voice, locate a car that is stolen or lost in a car park and ensure it is secure with the alarm on, letting you know if something goes wrong. It may even be able to turn on the heater when you wake up so it's ready for when you leave the house. Care, however, will be taken with regards to the level of complexity. Cars could have fully fledged, all-singing, all-dancing Android systems in place but they would need to have a simple UI.

"What works in the hand when you're stationary at a coffee table does not work when your travelling at 70mph in the car," says research scientist Bryan Reimar, of the Massachusetts Institute of Technology AgeLab, who has been studying links between technology and motoring. "The Android system in a car will have to go through a process of simplification, be more robust, intuitive, simple, clear and effective."

The systems are likely to be skinned too so that car manufacturers, which aspire to have strong relationships with their customers, can create their own bespoke offerings. They are likely, however, to make use of generic apps. "Android powers some of the most premium devices around so car manufacturers will be more than happy to have it in use in their vehicles," says Jeremy Green, principal analyst at Ovum. "It is versatile and stable but, just as important, it is open."

Audi's Smart Display is leading the way in in-car Android systems

In-car Android



Audi Smart Display

Crash proof and temperature resistant, the 10.2-inch HD display of this tablet gives the car owner access to the vehicle's infotainment system.



Clarion AX1

The US-only Clarion AX1 is packed with applications that allow for navigation with voice guidance, phone calls and entertainment. It has a 6.5-inch touchscreen and 1080p HD.



Asteroid Smart

Running Android 2.3 and using a bespoke UI, the Asteroid Smart is a hands-free multimedia system for the car. It has a range of navigation options from TomTom, Waze and NavFree.



Philips CarStudio

Although not powered by Android, this system allows you to charge your Android phone, control play via an app and answer calls hands free. It's traditional but recognises the need for Android support.

» masterclass

Hack Android without rooting

Improve and unlock new features on your Android phone without needing to root it first

One of the best things about being part of the Android operating system is that it's capable of so many things. For users who want that little bit more from their device, then they have the option to explore the hacking side of things. By rooting a phone, users can really tailor their device to their exact preference without needing to purchase a new device. But for those users who are uncomfortable with the hacking process, no worries, as you can still hack your smartphone without ever actually rooting your device in the process.

The following masterclass will show you five distinctive ways in which you can improve current features on your device, or discover new ones. In the first instance, we'll show you how to use the Developer options screen on your device to speed up your phone in different areas. We'll also show you some great customisation features to make getting around your phone a quicker and more enjoyable process through the Switchr and Floating Toucher apps. There's also a handy tutorial covering the Atom Launcher that enables users to create their own personalised homescreens. And finally, we'll explore the Android Tuner app, which gives you unprecedented access to all your Android phone's hidden and more vital features.

faq

Ask your own question online at **littlegreenrobot.co.uk**

My phone feels sluggish to use. Is there a way I can give my RAM a boost without rooting?

There are plenty of ways you can do this without rooting. The best app to use is Smart RAM Booster, which provides a simple way to monitor your phone's RAM usage and stop any unwanted tasks or background apps from using it too much.

Five hack-free improvements

1. One of the best ways to implement new gestures on to your phone without rooting is by using the Nova Launcher app, which contains a whole host of different gestures which can be used in different areas of your phone or tablet.

2. Your notifications are highly customisable too and one of the best ways to add a different look and style to them is to implement colours into them. There's plenty of apps that perform this function, but Light Flow is the one all users should check out.

3. Ringtones are few and far between on Android smartphones and the stock selection is pretty poor to say the least. With an app like Zedge you can implement custom ringtones and notification sounds, again without needing to root your device.

4. By building your own widget, users can create something for their device that existing widgets don't offer.



Although the UCCW app is fairly complicated, it offers a step-by-step guide to creating your own widget from scratch and adding it directly to your phone.

5. You don't need to rely on the Google Play store to provide you with all your hack-without-root needs. Check out sites like DeviantArt and My Colour Screen, which both contain icon packs and themes you can use.

Revert to stock Get the stock Android look on your phone without rooting



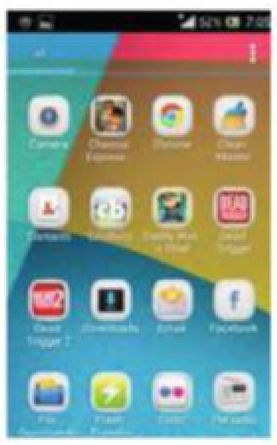
Replace your launcher

Download the KK Launcher app from the Google Play store. This will mimic the exact look and design of the KitKat launcher and app drawer found on Android 4.4 devices, without compromising on the speed of your device.



Download the KitKat LockScreen

The KitKat LockScreen app provides all the same features as any 4.4 device. Users can implement passwords on to it and even use the quick shortcuts to the camera app or to perform a traditional Google search.



Implement KitKat icons

The Android 4.4 Light Icons Theme gives users a new suite of KitKat-styled icons to use as they see fit. You'll notice many of the existing icons on your device will change completely once this app has been installed.

Works with » Android 2.1 and up

Improve performance with Android Tuner

Remove bloat, stop background apps and monitor battery life all in one app

By hacking your phone, users can download apps that enable them to have complete control over specific details on how their phone performs. Although perhaps not on the exact same scale as these apps, Android Tuner is a great alternative for those not wanting to hack their device. The app itself covers all the main features of your phone and provides an easy way to improve overall performance and streamline content on it to make sure it's running at full speed at all times. Read the following tutorial to understand how it all works.



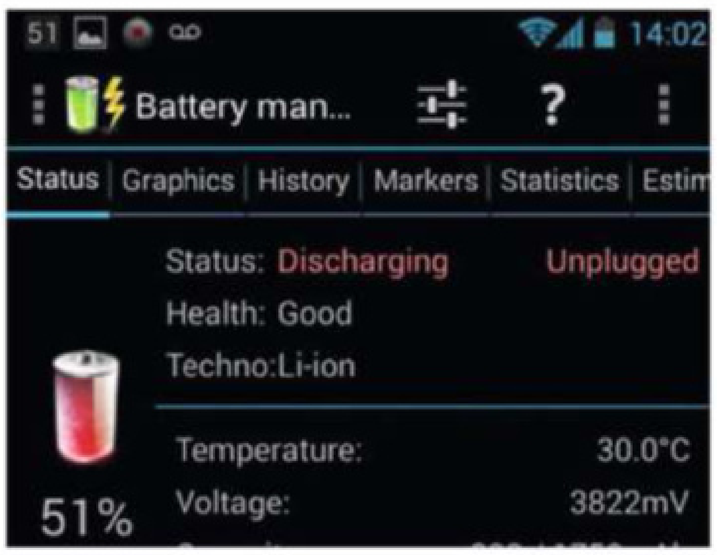
1 Explore options

When you first open the app you'll be greeted with a wall of various features and settings to take a closer look at. To get a general overview on your phone's performance, select the Device manager from the options provided.



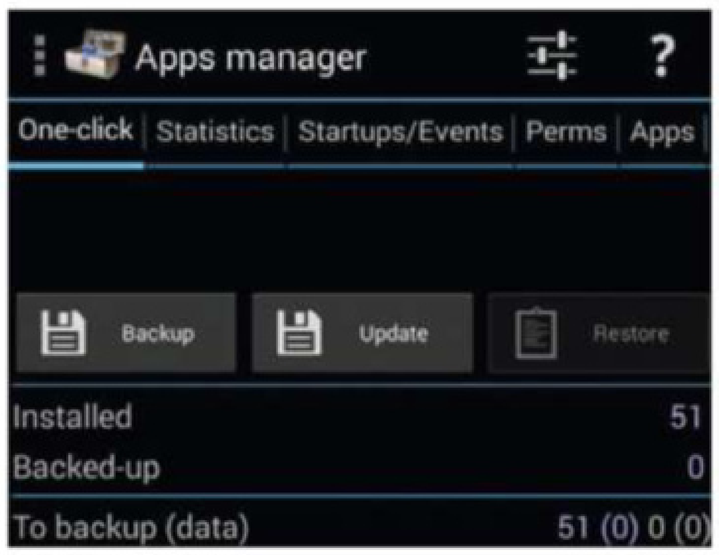
2 Device manager

Through this screen you can see the temperature of your phone's battery and also your CPU and memory usage. Access the Scheduler option at the top of the screen to perform a diagnostic test to uncover potential problems.



3 Tinker with battery

The other option you'll want to check out straight away is the battery monitor app. Here you can see its general health and its current usage while also performing a quick scan of how its use could be improved.



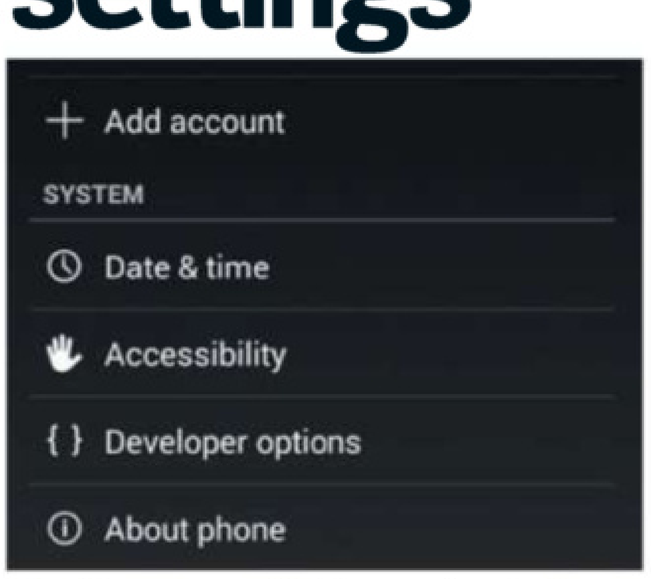
4 Manage your apps

If you have lots of apps installed, make sure to look at the Apps manager screen to remove any bloatware or unwanted apps. It's also a great place to remove any backlog of messages and missed calls that might slow things down.

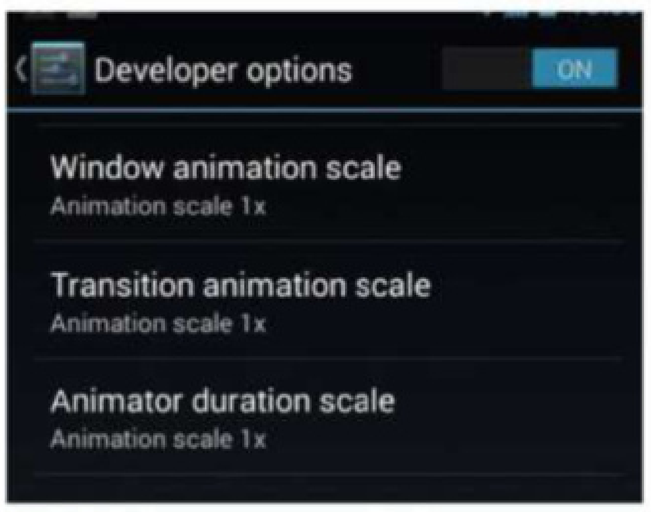
2 min guide

Forget convoluted apps to speed up your device – head to your phone's Developers settings instead

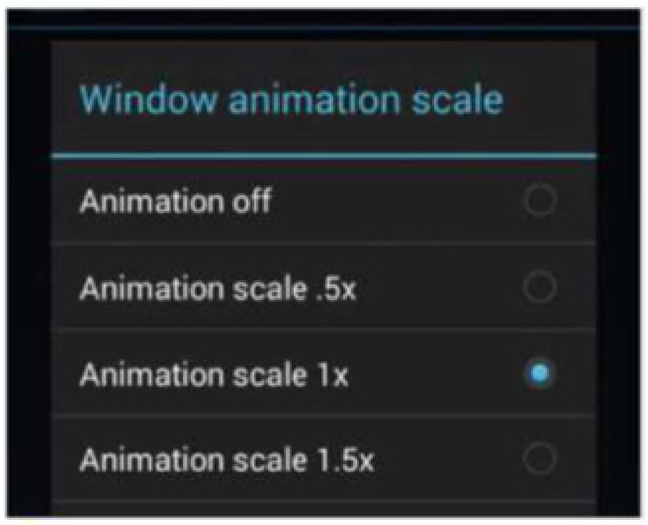
Speed up via the Dev settings



1 Open up your Settings and navigate down to the System sub-menu located at the bottom. Press on the Developer options tab located from within this menu.



2 Find the animation options in this menu. Although quite a small change to make, altering your phone's animation levels can provide big changes in speed.



3 Each animation option controls a different part of your phone, so make sure you go into each individual tab and minimise the animation levels within them.

Works with » Android 4.0 and up

Create bespoke themes in Atom Launcher

Use Atom Launcher to create a personalised theme from scratch

One of the benefits of hacking your Android phone is that it opens up personalisation options that you normally wouldn't have. Although rooting your phone does provide you with a series of additional apps to help quench that customisation bug you might have, you can make some amazing changes without needing to root at all. The Atom Launcher is a great app for creating themes from scratch solely using your smartphone. These themes can be as complicated or as simplistic as you like, depending on your tastes and preferences. Users can incorporate their own images stored within the Gallery or in cloud storage into these themes, as well as use custom icons to represent some of Android's most popular apps. So read on as we take you through the process of creating and customising your own theme from scratch, as well as point out a couple of cool extras that you'll want to check out right away.





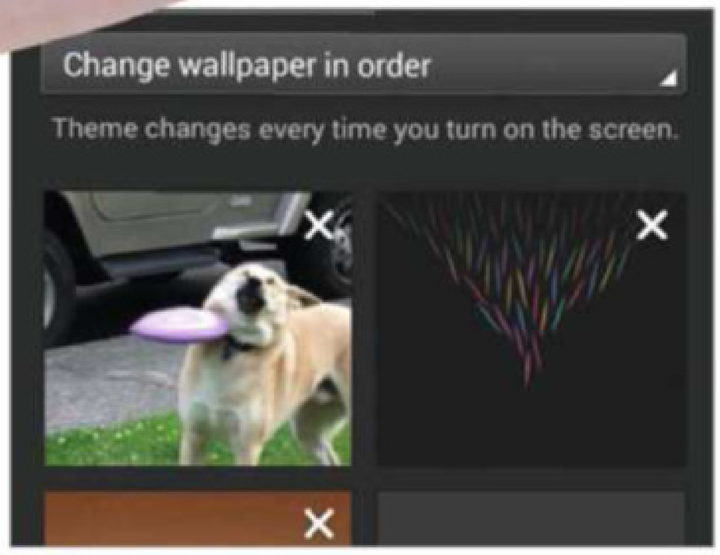
1 Select a style

Atom will have a default theme for you to work from and it's a good idea to familiarise yourself with the app's features by customising it before starting one from scratch. Once done, select the Change Icons menu from the left-hand side to start your own theme.



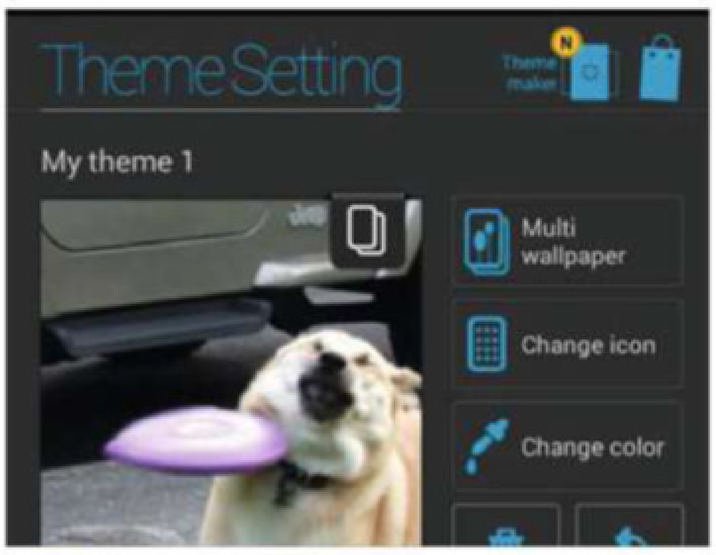
2 Choose icons

As well as offering the standard icon pack, Atom comes with additional icon packs for you to use on your theme. You can also press on the shop icon at the top of the app to open up the Atom Store and buy further icon packs at competitive prices.



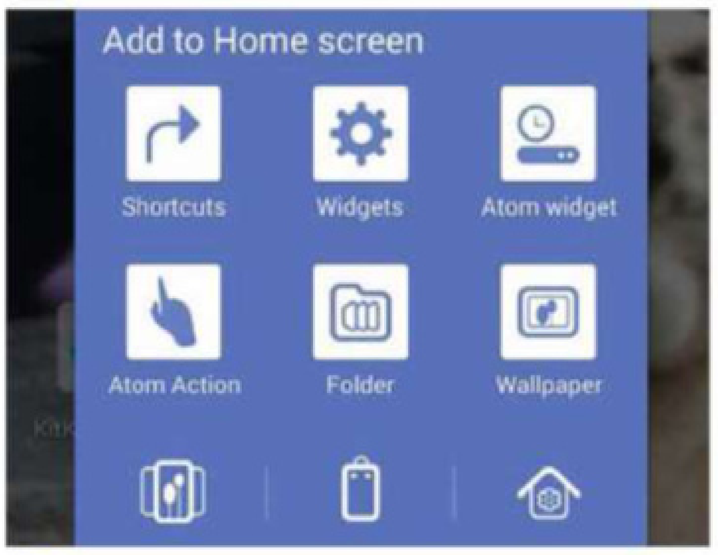
3 Add own images

Now select your own favourite images to incorporate into your theme. By adding numerous images, the background will constantly change between them. There's also a suite of stock images you can choose to use within the Atom app, if you'd prefer.



4 Implement new colours

After confirming your image selection you need to select the colours you want your theme to include. You can make the colours as vivid as you want and there's a handy in-app colour picker to use if you want an exact shade of a specific colour on your theme.



5 Add to homescreen

With everything finished, go back to the homescreen and long press on it until a menu appears. From this menu, select the Add to homescreen button provided. You can now select your custom theme and wait for it to appear for you to look at.

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Works with » Android 2.1 and up

Speed up app switching

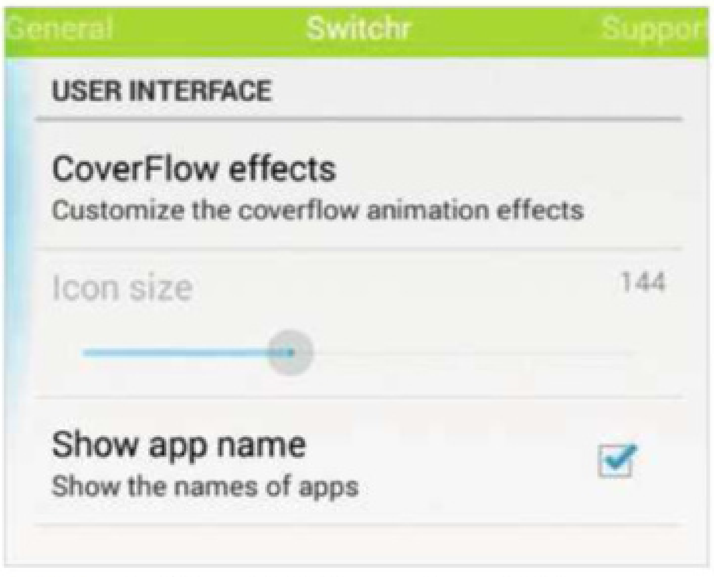
Forget the app drawer and switch between apps quicker than ever thanks to Switchr

If you download a lot of apps and games to your device, then chances are your app drawer will be spread over numerous pages and it can be quite a laborious task to navigate. But by using the Switchr app, you can create a tailor-made feature to switch between your favourite, or most used, apps surprisingly quickly and efficiently. This saves you having to trawl through the app drawer and instead use gestures placed on your homescreen to open them. The following tutorial will show you how to set up and use Switchr in various ways on your Android phone.



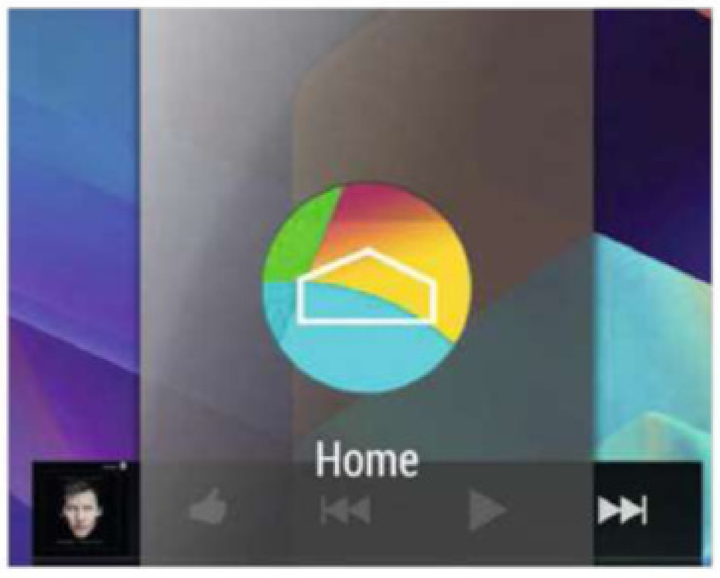
1 Choose a style

There are three very different gesture-based systems you can implement in Switchr. Each one can be further customised within the app. Select one of the systems and press the Continue button located at the bottom.



2 Add additional settings

With the type of gesture confirmed, go through the additional settings list to tailor it to your specification. Here you can control the animation levels for the gestures, as well as add the apps you want to include in the system.



3 Give it a try

Navigate back to your homescreen and give the gestures you've implemented a try. You should notice almost instantly that selecting and switching between apps is quicker. Go back to the app if you want to make further changes to it.

2 min guide Get full multitasking on Android

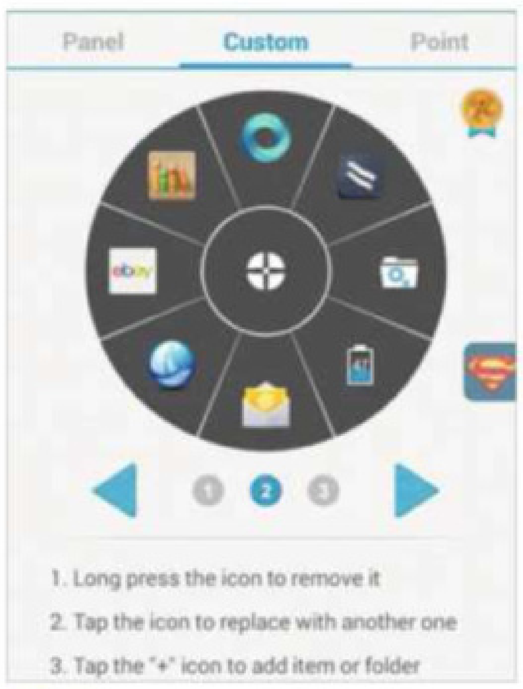
Use Floating Toucher to access one app without needing to exit another. Full multitasking is here!



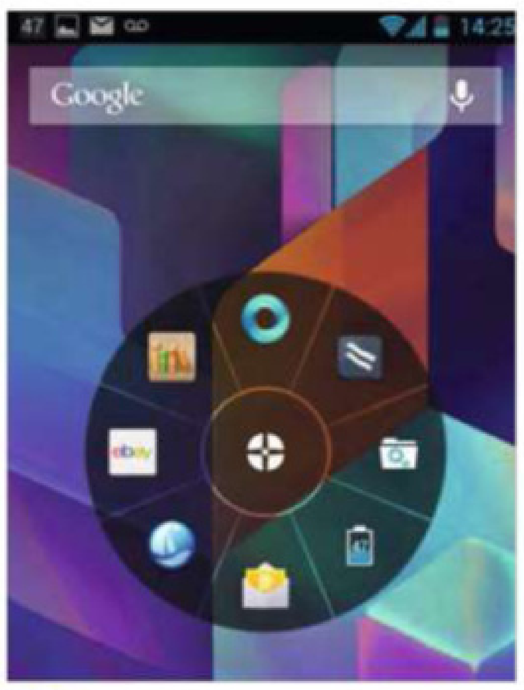
1 The first step to creating your wheel is to personalise it with colours and a theme. Follow the step-by-step instructions within the app to make all the necessary changes. Once done, go back to the Floating Toucher homescreen.



2 Now begin selecting the apps you want to add to the wheel. You can add as many as you want to the wheel and even add shortcuts to some of your smartphone's settings if you want to make the wheel even more useful.



3 After arranging your icons into a particular order, and following the last few pages of instructions, your personalised app wheel will automatically be placed on your homescreen for you to access after selecting a location for it.



4 Back out of the app and you should see the wheel on your homescreen. By selecting one of the icons you can quickly open up the app, which is perfect if you need to respond for any notification that subsequently appears.

Works with » Android 2.1 and up

Create location-aware events with Llama

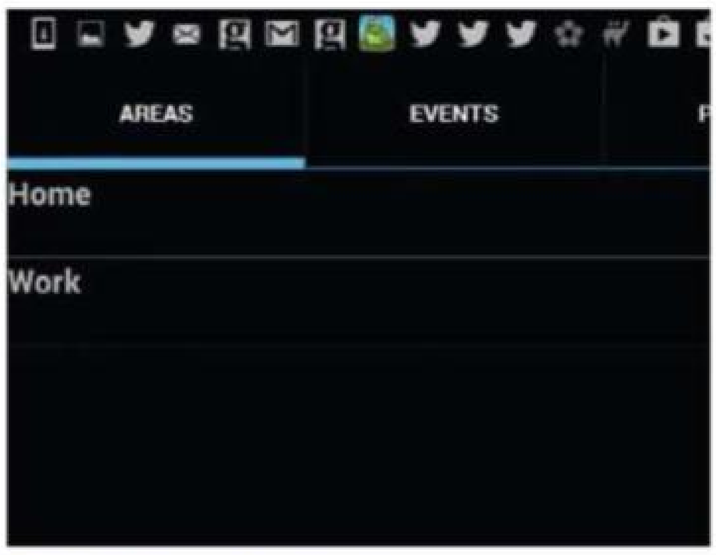
Get your phone to behave just the way you want with Llama's brilliant automation tools

Mobile devices are great for receiving information whatever your location. But, to make you aware that you have an incoming message or phone call, everyone in the vicinity will be well aware as well. There is nothing worse than a ringtone blasting out at work, or an annoying buzz in the middle of the night.

The mission of the Llama app is to negate these annoyances. The app performs actions based on the location of the device. It is different to many other location-based apps because it doesn't use GPS. Instead it uses mobile phone network masts to gain location information. This enables the app to save on battery life, but it does leave a 'learning' process.

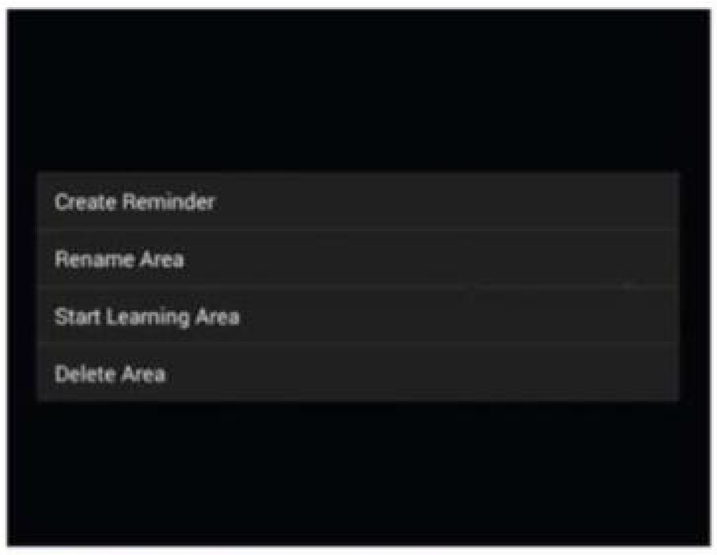
The app is effectively a three-step process. It learns what areas you are in, eg home, then an event can be triggered to start a profile. For example, when at home (area) between the hours of 10pm and 6am (event) then the device should be quiet (profile). Here we show how to set up, modify and manage the app.





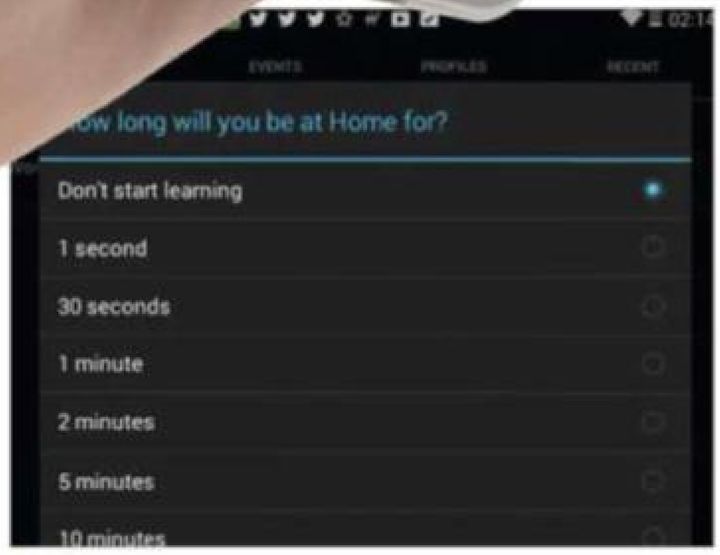
1 Time to train

After installing Llama users are presented with a couple of messages. The first refers to some 'boring stuff', but the second offers some useful information that you really need to read. The application needs to be trained to learn your movements, so tap Okey doke and select Areas.



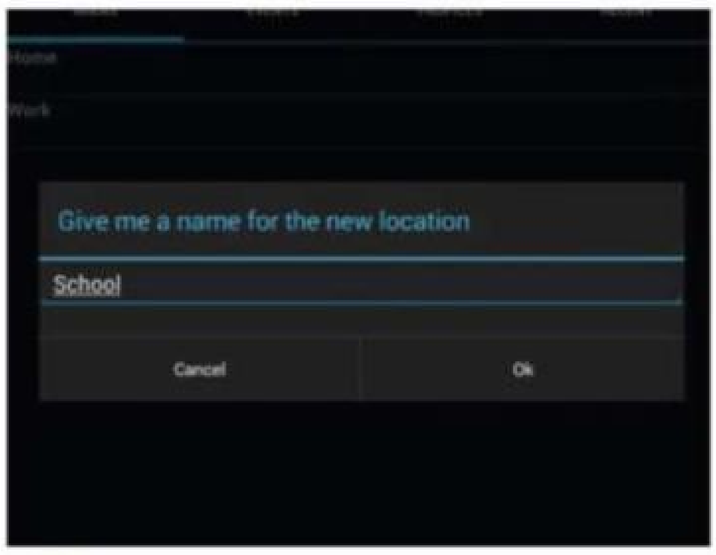
2 Start learning

By default, Llama sets up with two different areas: Home and Work. Starting with Home, tap and hold until the menu appears. Tap Start Learning and then tap how long you will be at that location. It is important that you are in the specified area for the specified time.



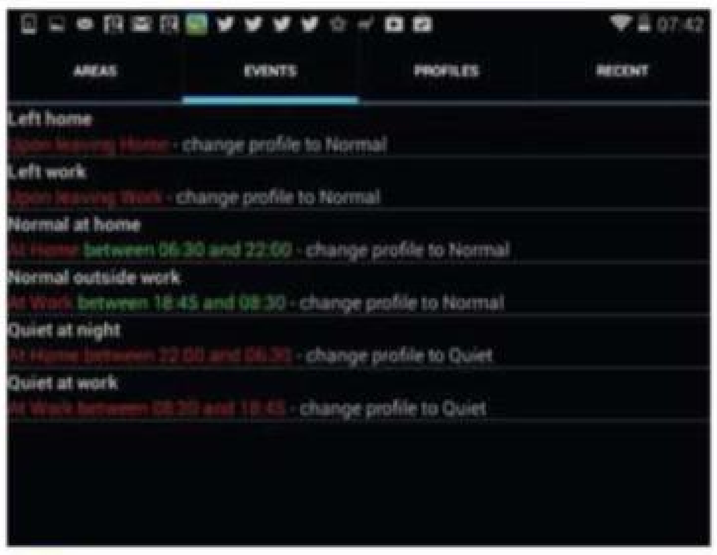
3 Physical location

Llama doesn't use GPS, but uses the available mobile networks masts as reference points. So, before it can start 'learning' the device the app is installed on, it needs to be in that physical location. If you are only going to be there for 10 minutes, set it to learn for 10 minutes.



4 Add new area

If you use other regular locations then these can be easily added to Areas and learn in the same way as the default options. In the bottom-right of the Areas screen is a plus button. Tap, and add a name for the new location, for example, School.



5 Events

The Llama app is pre-configured with a number of events. For example, Quiet at night switches a device's ringer off between the specified times. These can be modified to suit. Each Event is assigned a Profile, which is applied when the Event condition is reached.

storemags

5 quick tips

Take control and manage the Llama app options

1 Add shortcut
To place a shortcut on your home screen, tap, hold and select Shortcuts then Llama.

2 Event History
To view stored Event History go to Events and tap the clock icon in the bottom-right corner.

3 Long tap
To edit, copy, run, disable, delete or share an event, tap and hold an event to open a new menu.

4 Settings
Access the settings via the menu in the bottom-right. Scroll through the list to change options.

5 Lock a profile
Go to the Profiles window, tap and hold a profile and select Activate and Lock. Set a time to lock.

Storemags.com



6 Modify Event

To modify an existing event, for example, you want to change the time of Quiet at night, tap the appropriate event in the menu. To modify the time, just tap Time Between, adjust accordingly and hit the OK option. To change the Area, tap Enter Area and select a new option.



7 Profiles

Tap Profiles to view the default selections: Loud, Normal, Quiet and Silent. To edit a Profile tap and hold the chosen Profile. From here there is the option to change the ringtone volume, notification volume, vibrate mode, choose a ringtone and alarm volume.



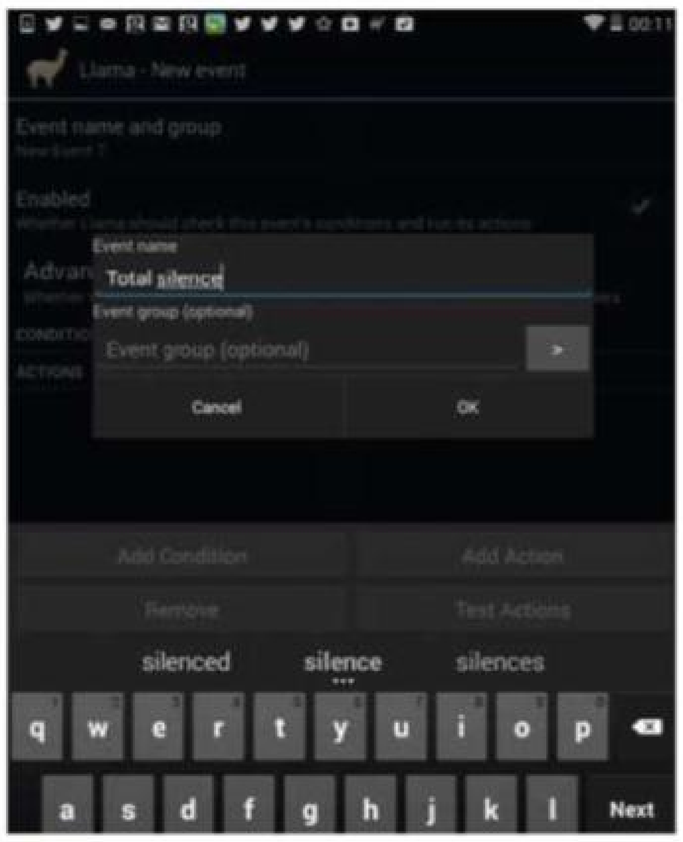
8 New profile

To create a new profile first tap the plus button on the bottom-right of the Profiles screen. The first step is to name the new Profile. Tap Profile name and type in the new name. Now change the accompanying options, for example, Ringtone volume to suit the profile.

2 min guide

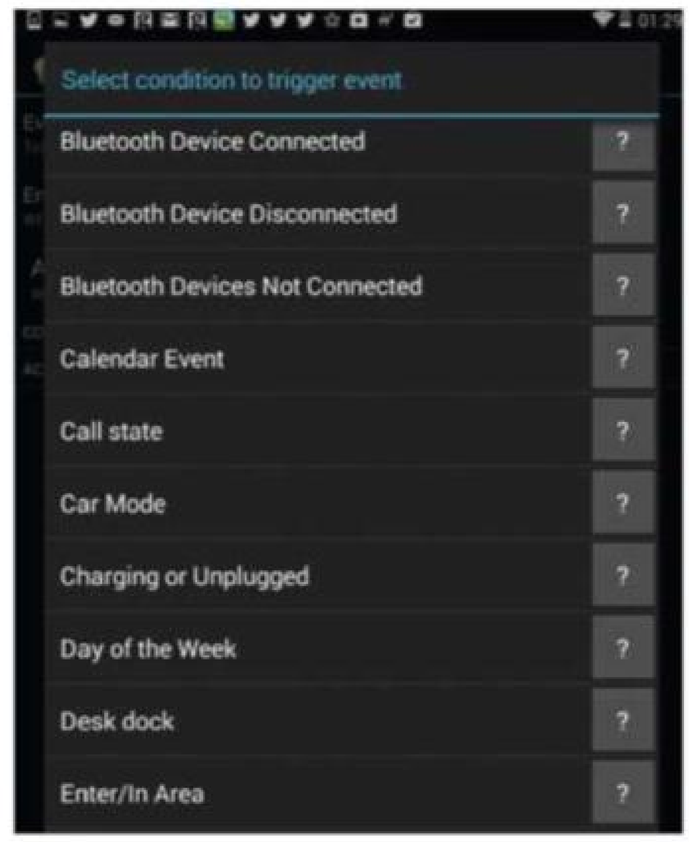
Automate a task based on an event

Build a new custom event to be called into action when a condition is met



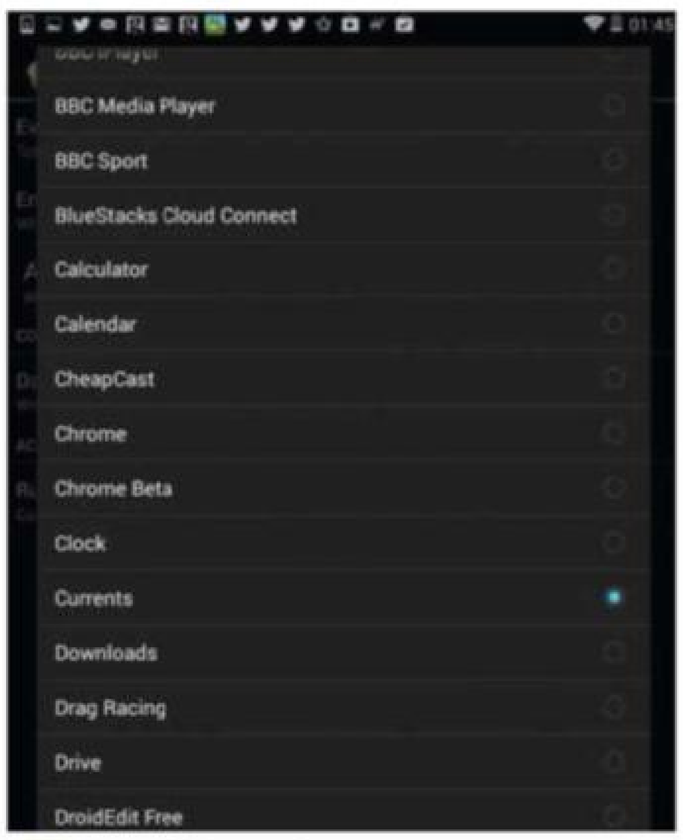
1 Event name

First head to Events and tap the plus icon at the bottom of the screen. This will open the New event window. The first step is to name the new event, so tap the Event name box and add the text in manually. You can also add an Event group if you wish to.



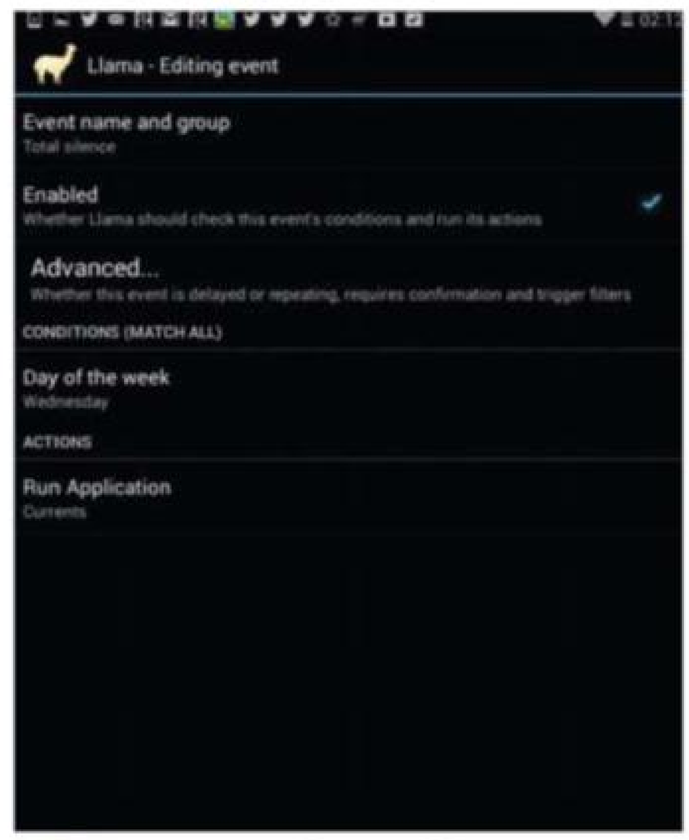
2 Add condition

An event needs a trigger. To add a condition too, tap Add condition. This will display a long list of options including Battery Level, Alarm Time, Day of the Week. Tap the '?' button to get a brief description of the button. Tap the name to view further options and add.



3 Add Action

With a condition in place, tap Add Action. Browse the list to select an action. Again tap the '?' to find out the precise nature of the action. In this example, the Run application action has been selected. To complete the action an app needs to be selected.



4 Test and modify

Once the new event is complete, tap Test Actions to make sure it works as intended. To modify an action or condition simply tap either and select a new option. To remove a condition or action, first tap Remove followed by the chosen action or condition.

Works with » All versions of Android

Use Android's security features

How to make sure your device, and your data, stay safe at all times

There's always going to be a level of danger to keeping important information on a portable device, not least because there are lots of people out there who wouldn't think twice about grabbing your phone or tablet given half the chance. While there are lots of apps out there that say they'll make sure your data is secure, Android devices have plenty of security built in that means you can make sure you're as protected as possible without having to download too much else.

In this tutorial we're going to explain to you how some of them work, show you where on your device you can find them and how to get them set up as painlessly as possible.

Encrypt your device

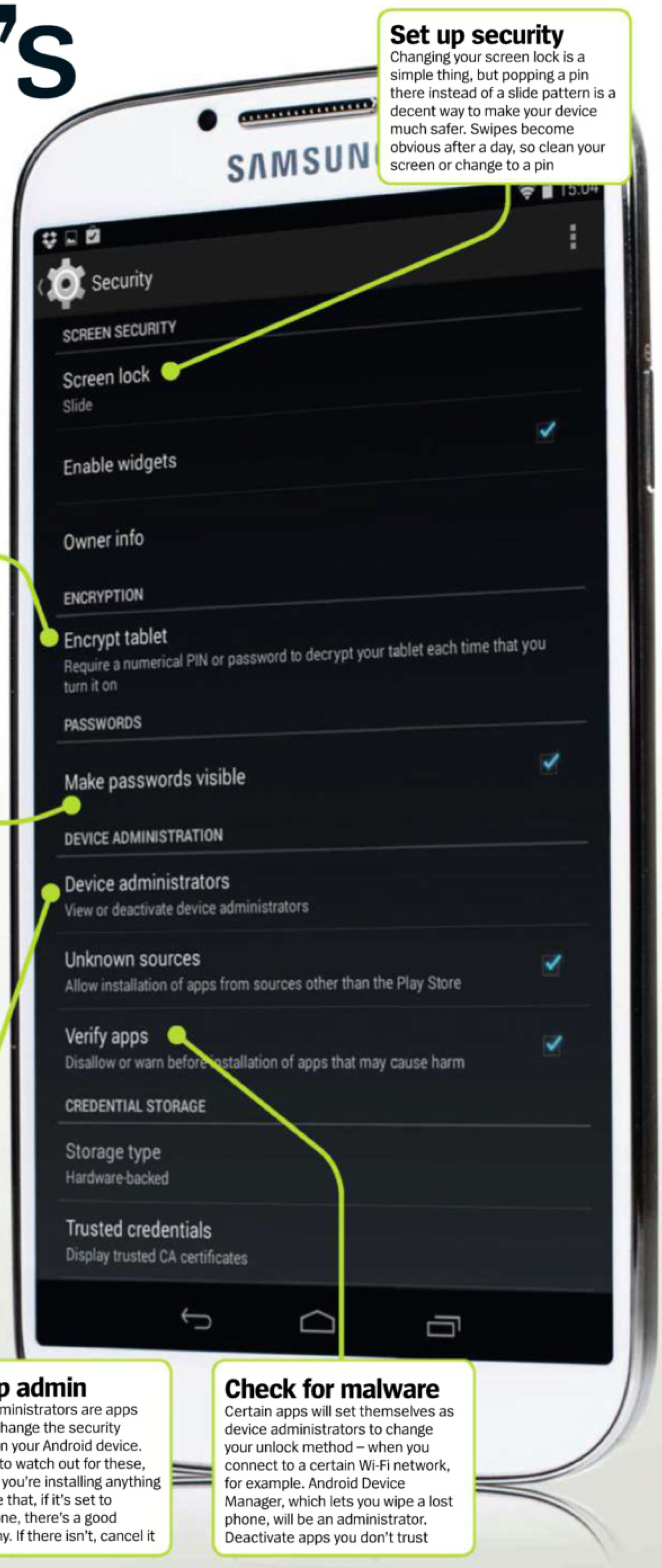
Encrypting your device means the data inside is encoded until you perform a factory reset. You'll also have a password to enter every time you turn on your phone or tablet to gain access. It makes your important information much more difficult to get to

View all passwords

However, you want to make sure the password is something you're going to remember, and make sure your device is fully charged and plugged in when you start the process, otherwise it won't work. Don't interrupt the process once it starts either or you'll lose data

Set up security

Changing your screen lock is a simple thing, but popping a pin there instead of a slide pattern is a decent way to make your device much safer. Swipes become obvious after a day, so clean your screen or change to a pin



Set up admin

Device administrators are apps that can change the security settings on your Android device. You need to watch out for these, and when you're installing anything make sure that, if it's set to become one, there's a good reason why. If there isn't, cancel it

Check for malware

Certain apps will set themselves as device administrators to change your unlock method – when you connect to a certain Wi-Fi network, for example. Android Device Manager, which lets you wipe a lost phone, will be an administrator. Deactivate apps you don't trust

Other security tips and tricks

Here are some other settings you can change or tweak around from the Security menu to make sure your Android device is safer than houses



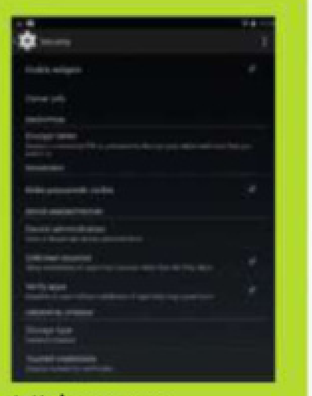
Unknown sources

If you want to install apps from places other than the Google Play store you'll need to check this box. Just make sure you check out each app before you install it, and don't install anything you're not sure about.



Change owner information

You can type information into the Owner info section in case you lose your device. You can display it on your lock screen so there's no need to access the device. Use common sense about what you share though.

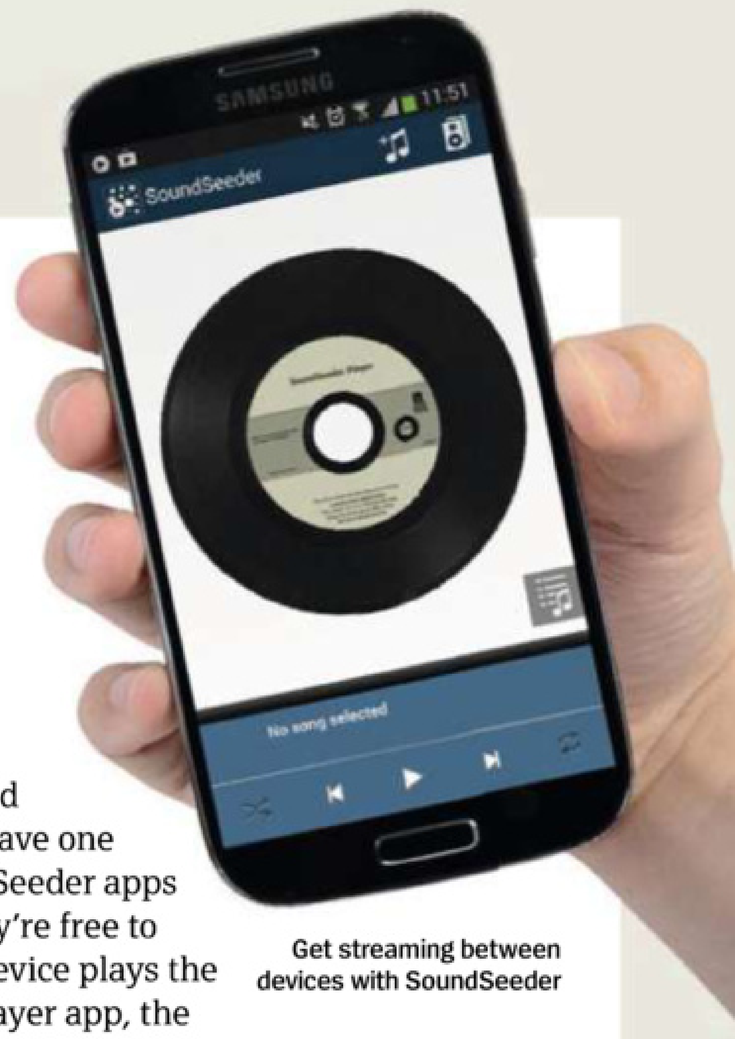


Hide your passwords

Another simple tip is to uncheck the Make Passwords Visible box. That way anyone looking over your shoulder isn't going to be able to access your accounts. Security is as much about being smart as being protected.

Works with » Android 4.1 (Player), Android 2.2 (Speaker)

Share music on multiple devices



Get streaming between devices with SoundSeeder

The Galaxy S4 lets you stream songs between several devices. Now you can do it on any Android handset...

One of the coolest things the Samsung Galaxy S4 does is let you share a song over multiple connected devices, essentially chaining them together as wireless speakers all playing the same song. SoundSeeder lets you do the same thing across any Android device, so long as it's got the right app installed and is connected to a wireless network. It's pretty easy to get it set up and running, and in this tutorial we'll talk you through the apps you need to download and how to get your devices connected.

Every connected device needs to have one of the two SoundSeeder apps installed, but they're free to download. One device plays the song using the Player app, the others bash it out using the Speaker app. With this quick and easy-to-follow tutorial you'll be annoying the neighbours with your late night Android parties in no time at all.



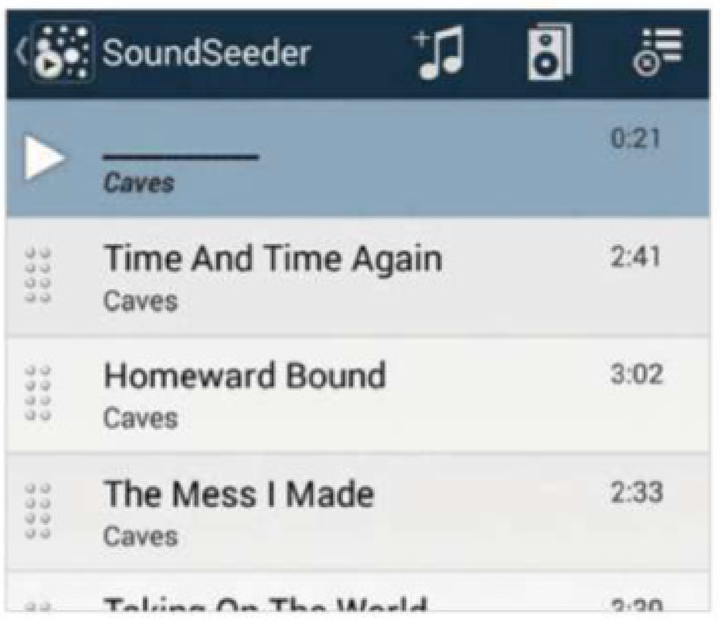
1 Install the Player

First you'll need to install the SoundSeeder Music Player app on the device you want to stream the music from. It's free from the App Store and once you've got it you'll need to start by creating your first playlist.



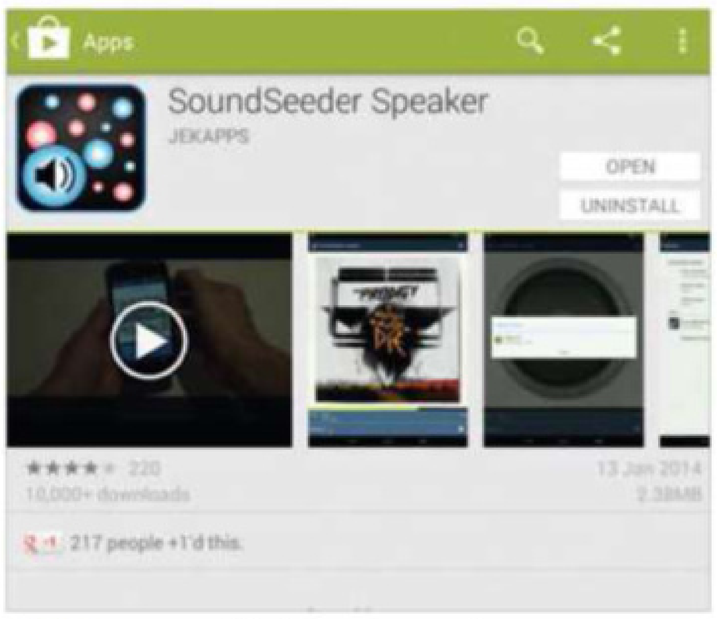
2 Choose the tracks

Any music you've got saved on your device should show up in the app's library. Tap on an album to dive into it and select individual songs, or you can long press to open up a menu and add the whole thing if that's easier.



3 Ready your playlist

Once the playlist is ready, you're pretty much set on the first device. Make sure you're connected to the same Wi-Fi network as the other tablets or phones you're using, then grab one of the other devices and follow the next steps.



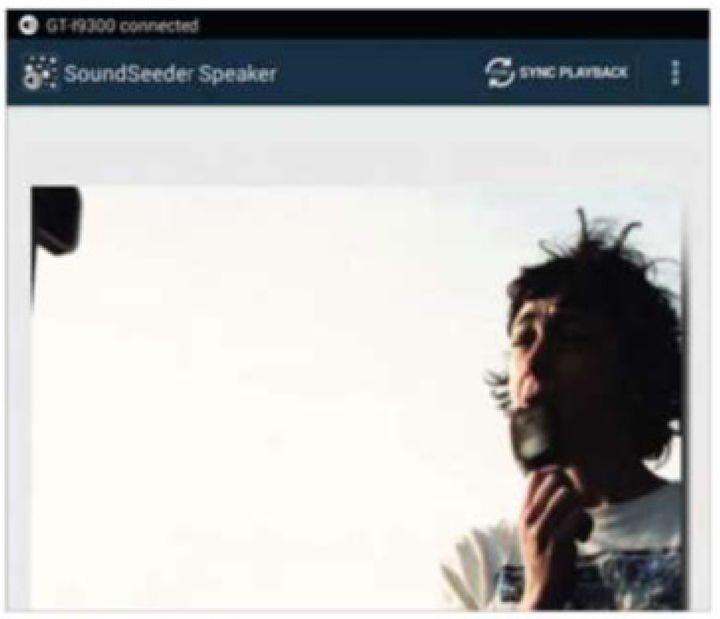
4 Install the Speaker

Next up you'll need to install the SoundSeeder Speaker app on any device you want to play your music on. You can grab it from the Google Play store for nothing, but you need to make sure it's the Speaker, not the Player.



5 Connect them up

Once the app is installed and you've named your device, you should get a notification telling you that there's a SoundSeeder Player playing something on the network. Tap on this and you'll get taken to the Speaker app.



6 Play in sync

All you do now is hit play and your two or more devices should start belting out your tunes. If things are a bit out of time, tap the Sync button and the kinks should hopefully iron themselves out. You'll get the best results near a router.

Works with » Varies with device

Hibernate apps to save battery life

Use Greenify to send apps to sleep, saving battery life and data without any hassle

One of the big bug bears of smartphone and tablet users is battery life. We're always trying to squeeze some extra juice out of our Android devices to make sure they last the day. Sometimes though there are apps leeching on our battery when we don't know it, running in the background using up power that we don't really have to spare. And that's where Greenify comes in.

It's a really simple app that lets you 'hibernate' other apps when they're not in use, pushing down their power and data consumption. It had been for rooted devices only, but the latest update means it's now available for anyone. In this tutorial we'll walk you through how to set up the process, showing you how to power-down those pesky apps and make sure that your device is still running strong, long into the night.

Apps to close

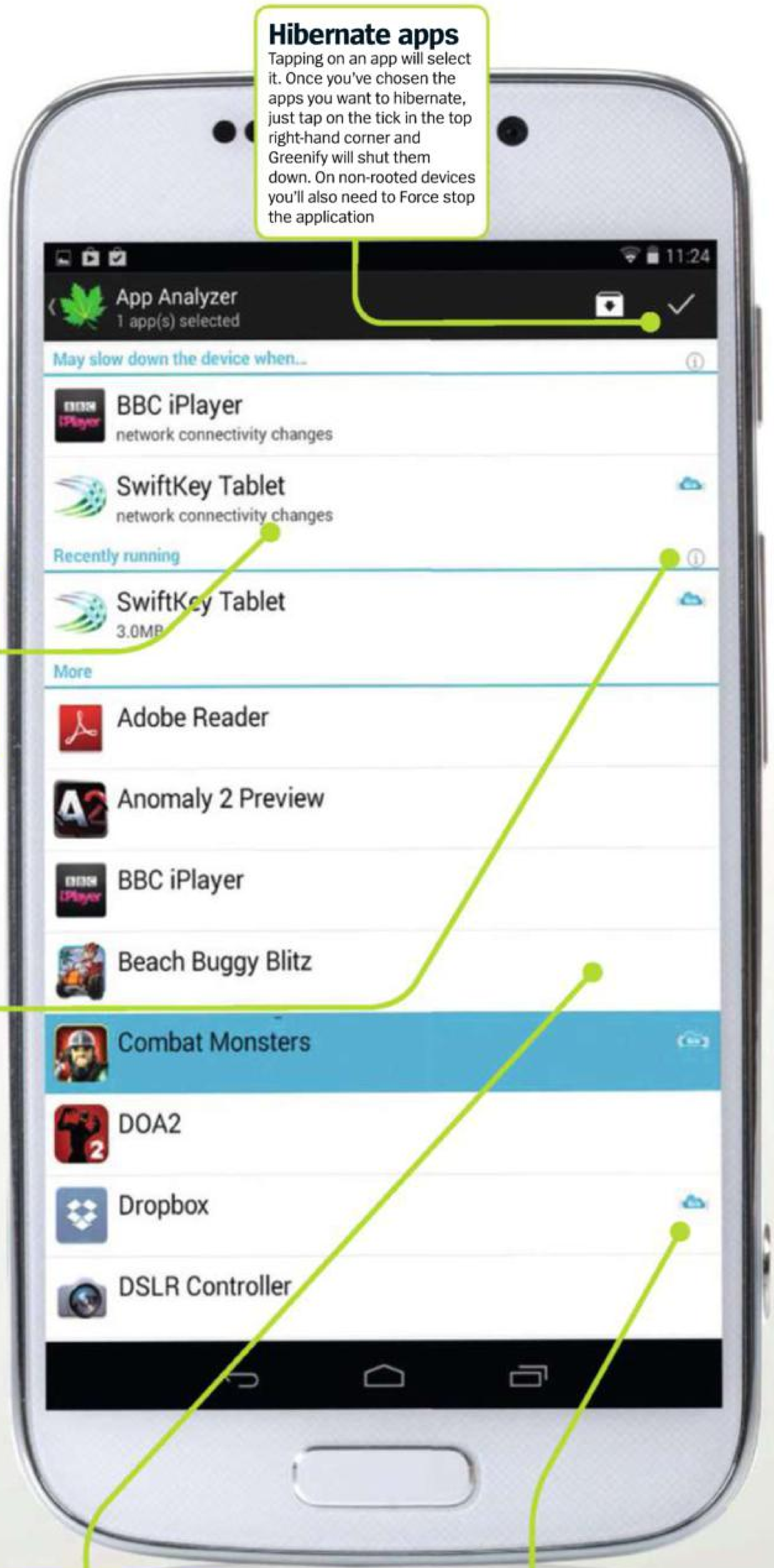
The recently running apps section of the screen shows you any apps that have been using power in the last few hours. If you're spotting apps in that list that you're not actually using, you should hibernate them as well to save even more battery

More info

You can tap the small 'i' button to get more information about the categories that the apps are broken up into. This tells you why Greenify thinks that the app needs to be hibernated. The longer the list, the worse the drain on your battery

Hibernate apps

Tapping on an app will select it. Once you've chosen the apps you want to hibernate, just tap on the tick in the top right-hand corner and Greenify will shut them down. On non-rooted devices you'll also need to Force stop the application



Auto sleep

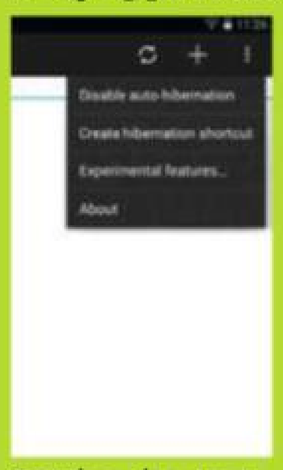
From the front page of the app, you'll want to tap on the '+' symbol in the top corner of the screen. After that this is the screen you're going to see. It's a list of the apps that Greenify thinks need putting to sleep

Notification warning

The blue cloud icon means an app uses Google Cloud Messaging. If you hibernate an app that uses that service, you won't get push notifications from it anymore. Bear that in mind before you send something you need to keep tabs on to sleep

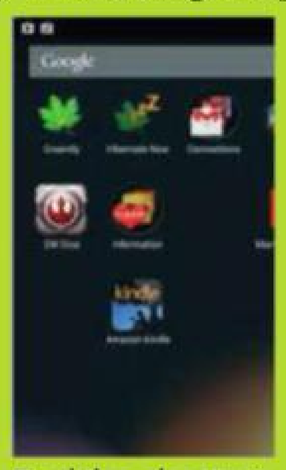
Set an auto hibernation shortcut

One neat trick you can perform with Greenify is setting up an auto-hibernate shortcut that puts any busy apps to sleep with a single tap



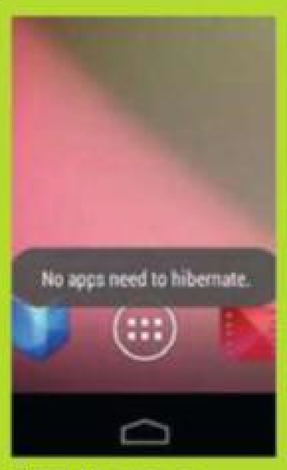
Set the shortcut

From the main screen bring up the menu. In the drop-down list you'll see a Create hibernation shortcut. Tap on this and a dialog box will tell you that a shortcut has been created on your launcher.



Find the shortcut

The shortcut will be placed on one of your homescreens, so find and move it. Now whenever you think your phone is sucking up battery, you can tap the shortcut to cut your power use.



Tap to green

Whenever you tap the shortcut you'll get a box pop up telling you how many apps have been hibernated. You'll need to Force stop them as well to get the benefit, but it still speeds up the process.

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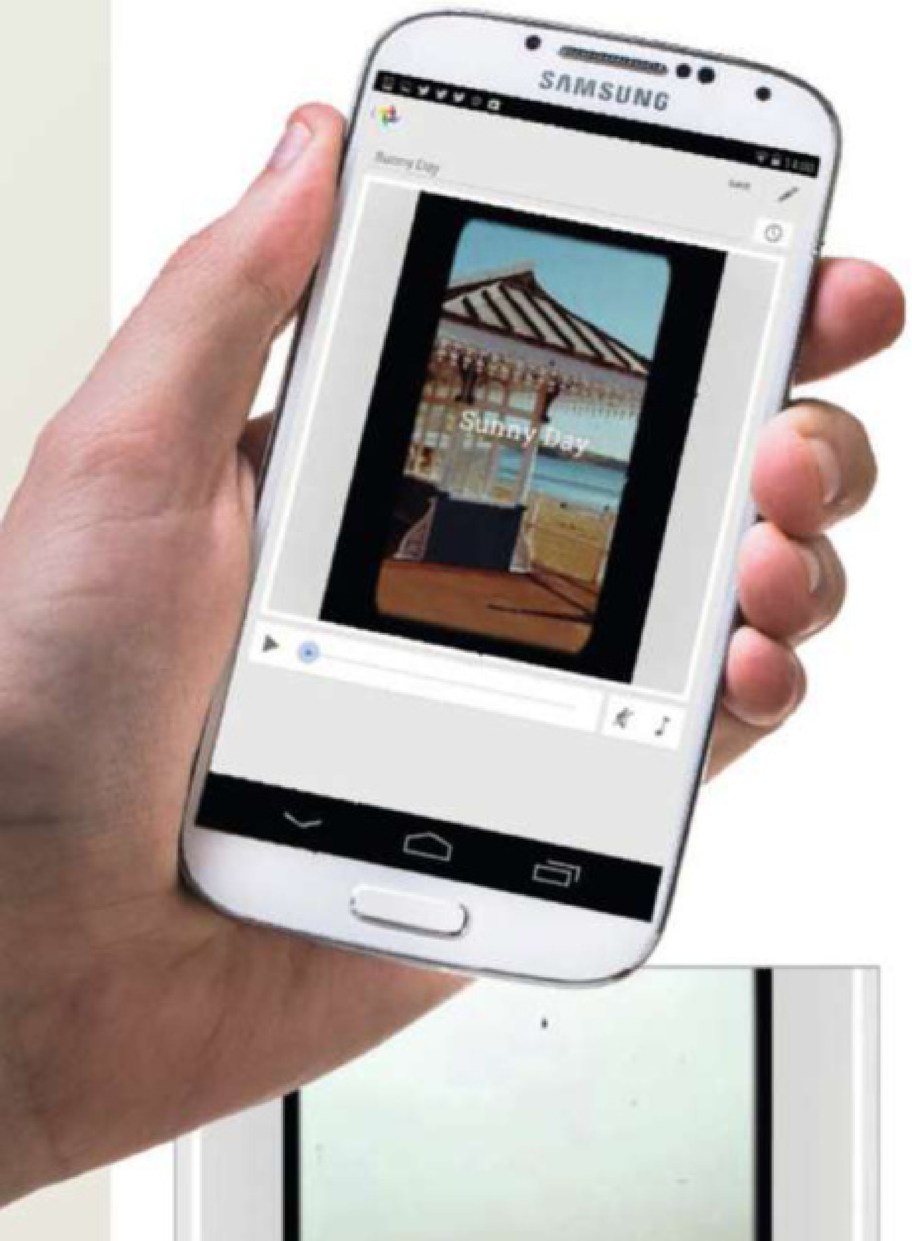
Works with » Varies with device

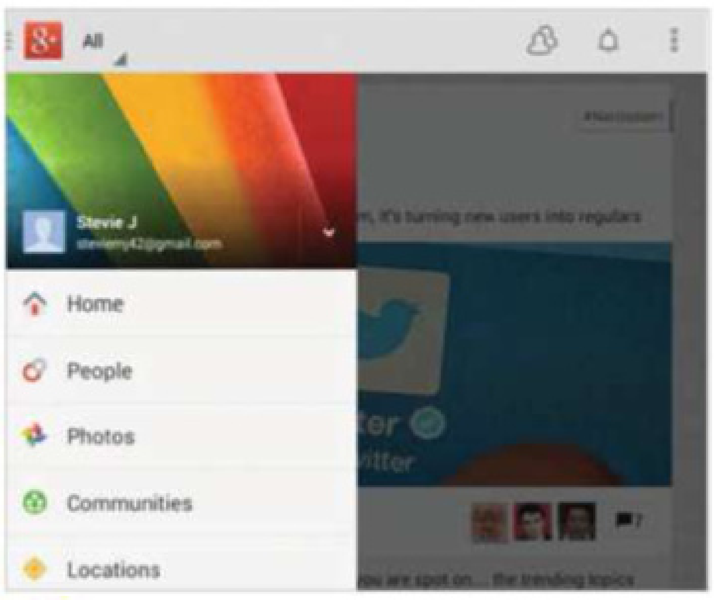
Create and edit videos in the Google+ app

Create more professional-looking movies with Google+'s set of simple, easy-to-apply editing tools

Google+ is the search giant's adventure into social networking and boasts a host of features to enjoy the medium. Video is a key component of the social experience, but simply adding straightforward unedited video clips doesn't do it justice. The option to edit and enhance is key to turning clips into a more enjoyable experience.

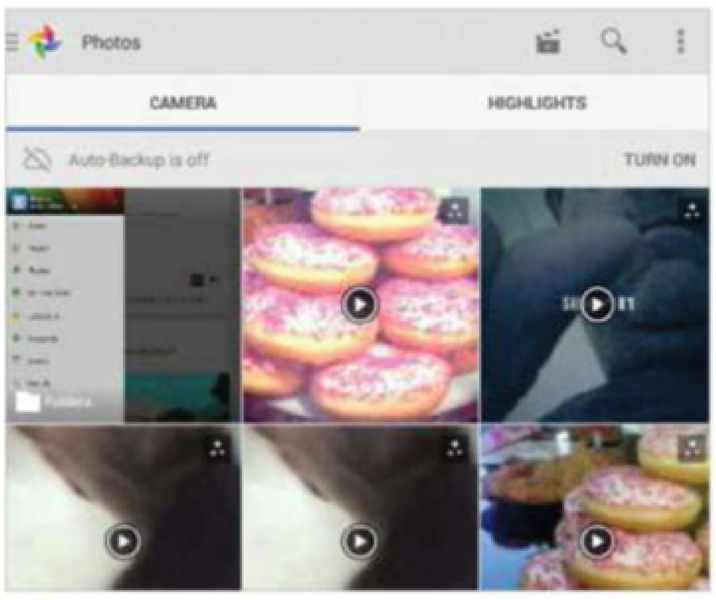
Google+ has a set of standard video-editing tools that are easy to apply and will add a veneer of professionalism to any set of clips. Its toolset enables users to add titles, trim video, add audio and filters. The key component of the editing tools is the Trim tool. This simple-to-apply tool enables users to go through a clip frame-by-frame and trim to the desired length. To enhance any movie users can introduce photos at key points and add more clips. With the basic building blocks in place a library of audio clips can be introduced with a few simple touches. To finish off, a set of filters lets users add a touch of glamour and, of course, the obligatory option to share.





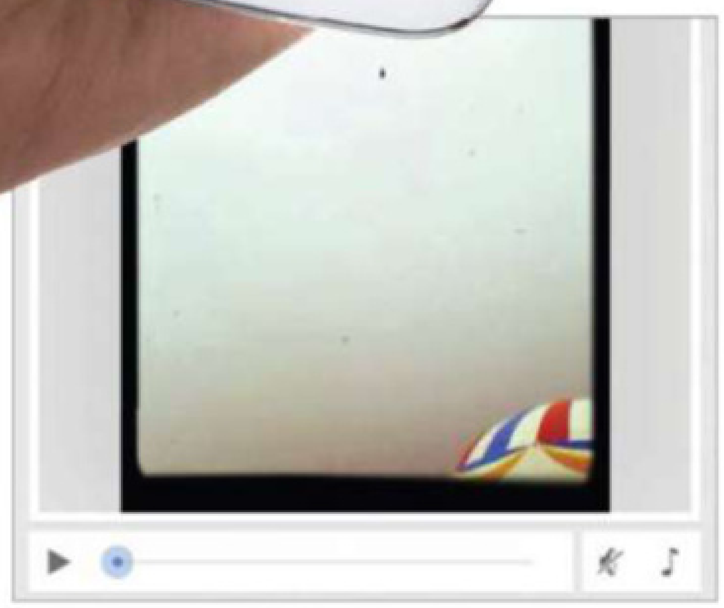
1 Get started

If you have a Google account, you will have a Google+ profile. Locate the Google+ app and open it. You may need to set it up on first-time use. Once set up and ready to go select Photos from the G+ menu.



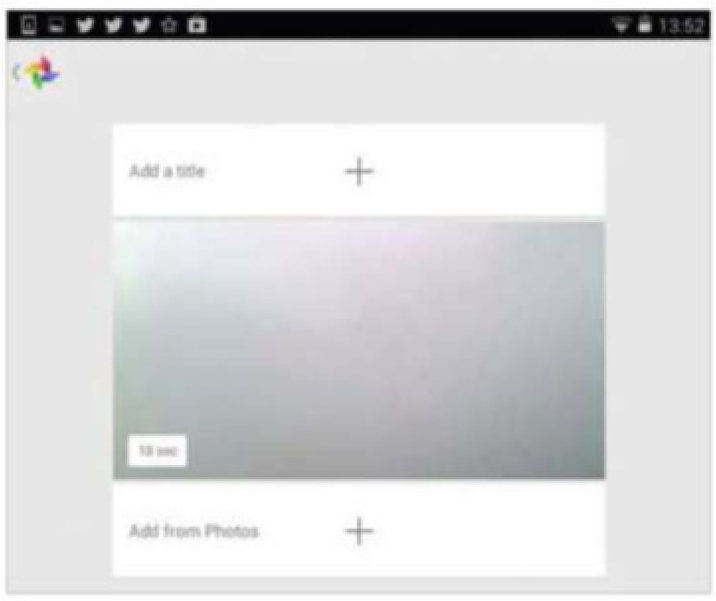
2 View videos

Photos will separate into Camera and Highlights. This displays video and photos that are available to view. To add editable video to the list tap the clapperboard icon and select Videos. This lists all video files on the current device.



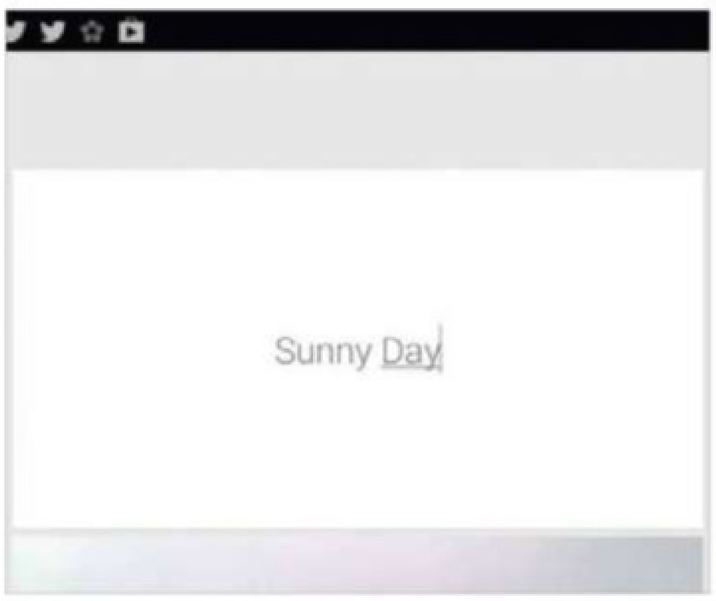
3 Select a video

From the grid select the video of choice. This will add a tick to the video and activate the Select option. There is the option to choose a single clip or multiple ones. For this tutorial we have chosen a single clip. Tap Select to open.



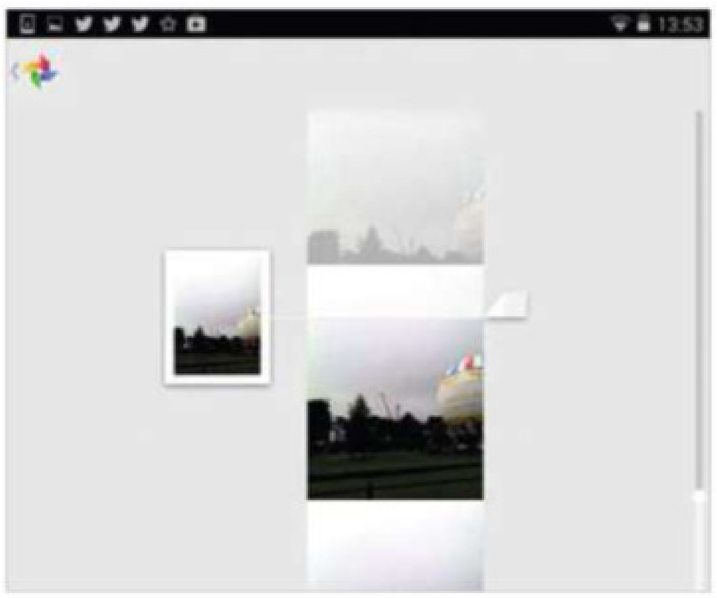
4 Edit mode

Tapping Select will load the selected video. There is the option to add a title, but to go into full editing mode (where a title can be added) tap the pencil icon in the top-right. This will separate into sections including title, clip and photos.



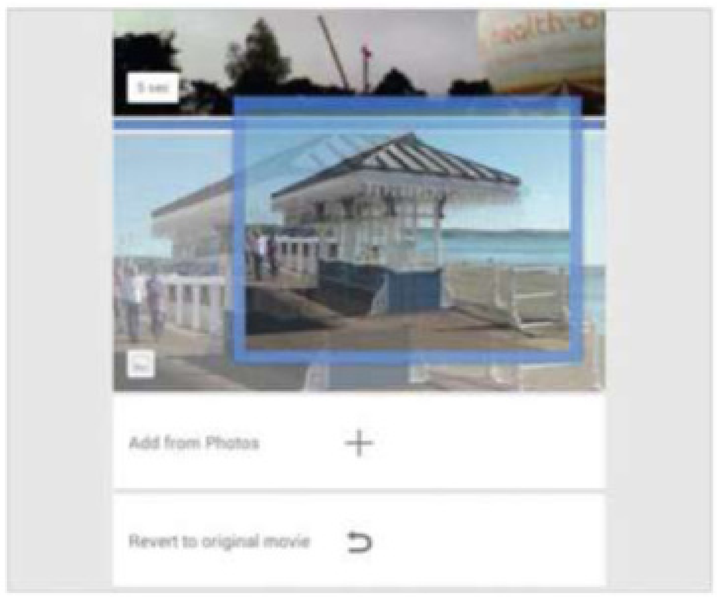
5 Add title

To add a title to the clip (or clips) simply tap the Add a title box. Type in the title and tap Finished on the keyboard to complete the title. To edit the title, tap and hold the text to bring up all the available options.



6 Edit video

To edit a video clip first tap the clip. This will split the clip into frames and add trim options. To trim a clip from the beginning, simply drag the trim handle into position. To trim a clip from the end swipe to the bottom and grab the trim handle.



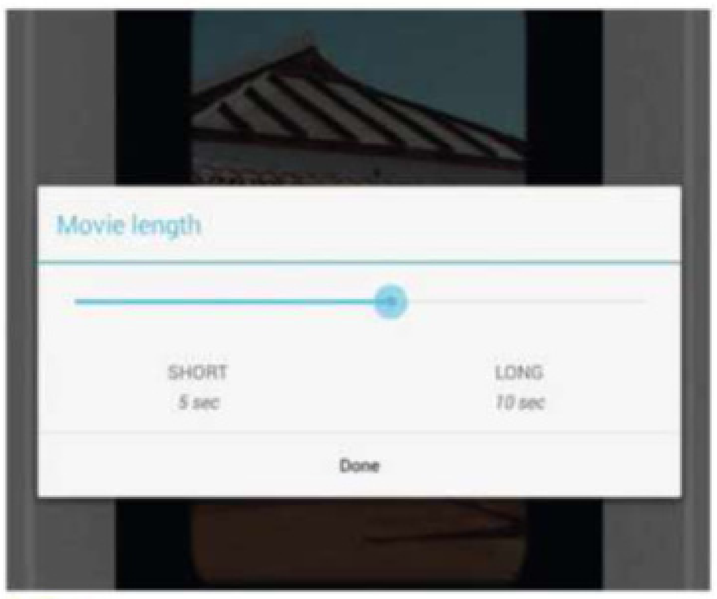
7 Add a photo

Tap the back arrow and click Add from Photos if a still image is going to be included in the final edit. This could be used as an intro screen for different sections. To arrange clips and photos into a new order, tap hold and drag into position.

faq Ask your own question online at littlegreenrobot.co.uk

Does Android have any other good video editing apps?

There are many video editors on the Play store, of varying levels of quality. Our pick for a good place to start is Magisto. It automatically chooses the best parts of your movie clips and cuts them together with your own choice of music.



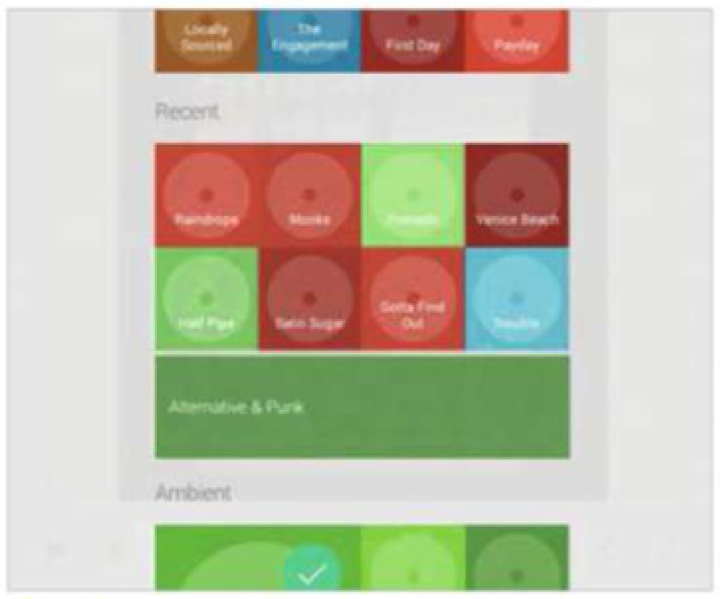
8 Playback

Now go back a screen and tap the play button to view current state of the video. Tap the clock icon sat just under the edit icon. This will display the Movie length; use the slider to adjust how long you want the movie to be.



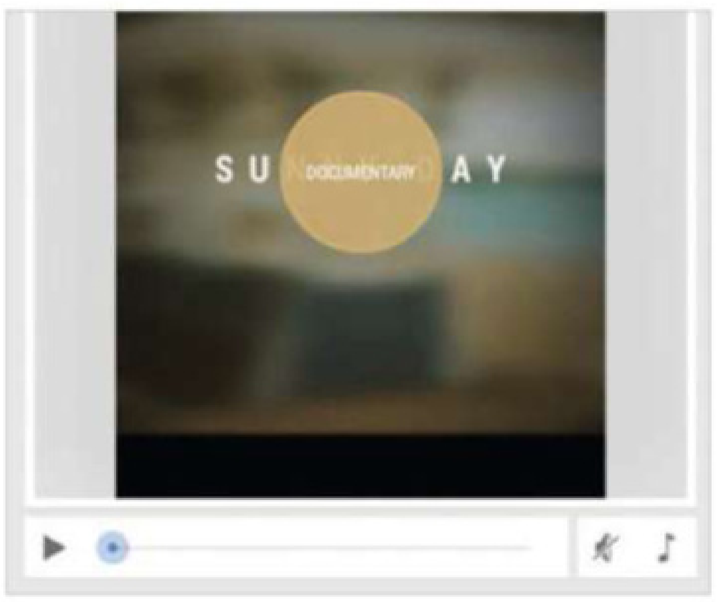
9 Add audio

In the bottom-right is a musical note icon. Tap to view a selection of suggested audio files. Tap one of the options to preview the audio file. Tap to close down and select another file. Tap the tick to add the desired audio file.



10 Alternative audio

To get more audio options tap More, which will reveal Recent selected audio files and a selection of genres, eg Ambient, Classical. Tap a genre to view more options. Again, tap to preview a track. When happy with your selection tap the tick.



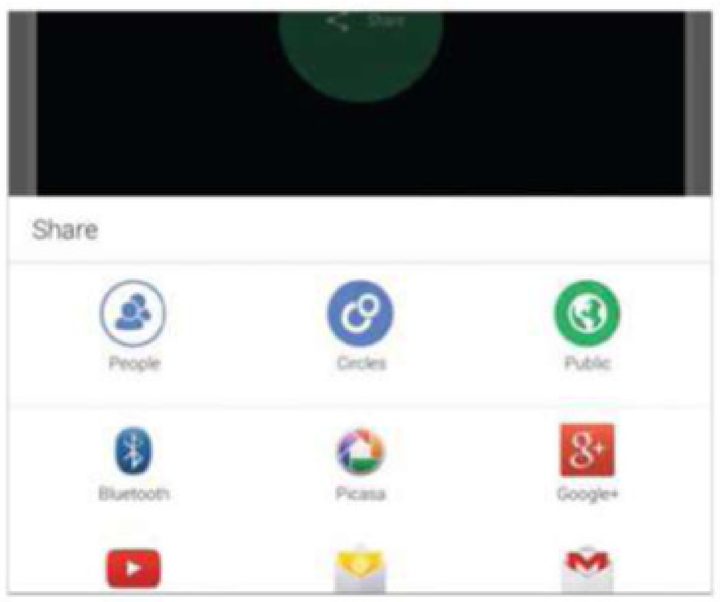
11 Add some glamour

There are a number of filters that can be applied to a movie. In the playback window, tap and hold to bring up the first filter. Swipe left quickly to view the different filters. To apply a filter simply stop and wait for it to be applied.



12 Save movie

To modify a movie, hit the pencil icon to edit and follow previous steps for further adjustments. When happy, play back the movie where there is the option to save at the end. Tap to save or hit 'x' to close and continue editing.



13 Share movie

The previous step lets you continue editing or save. If the save option is selected there is the option to Share the recently saved movie. If you don't want to share tap 'x'. Alternatively, tap Share and select from the available options.



Works with » Varies with device

Manage apps signed into Google+

Learn how to control the apps on your device that are accessing Google+

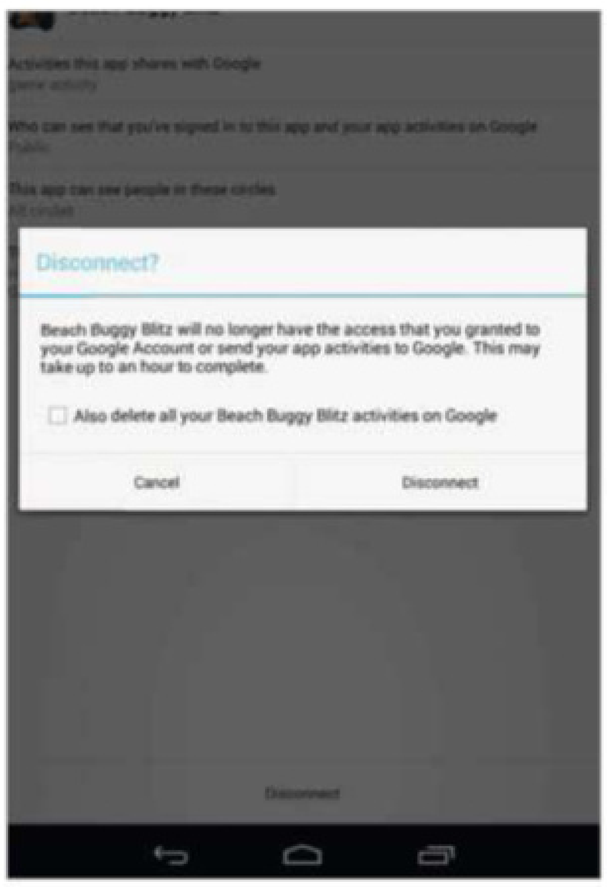
One of Google's big pushes at the moment is to direct most of the things you do on its services through Google+, its social network. Once you sign up for a Google account, you get a Google+ profile, and since signing into an Android device needs a Google account, you've probably got one. Connecting apps and games to the service is often as simple as tapping yes, but disconnecting them, and restricting what information they're are sharing, can be a bit tougher. In this tutorial we'll show you how to do it, and how to make sure you're in control.

1. Get to Google+

Open up the Google+ app on your device and bring up its menu. This is usually done by tapping the icon in the top-right corner. If you have a Samsung phone you'll tap the menu button instead. Navigate to the Settings menu, and you should see the name of your Google account about half way down. Tap on that to go to your Account Settings page.

2. Check your account

Now you should see a list of settings and options. The one you're looking for is called Apps with Google+ Sign-in and you should see it near the bottom of the list. Tap on that and you'll be taken to a list of the apps and games that are currently connected to your Google+ profile. This is the menu where you find out which apps are sending what.



[FIG 1] The Settings menu also lets you add different Google+ accounts to your device and change your photo backup settings. About Google+ shows the privacy policy

[FIG 3] As well as stopping the app sending any more information to Google+, this dialog box lets you delete any that the app or game has already sent too

3. Go through the apps

If you tap on any of the apps you'll find yourself on a page listing a variety of options and explanations concerning the permissions that the app has. If you want to get rid of it completely, tap on the Disconnect button at the bottom of the page. This will stop the app from sending any more information to Google+.

4. Set your permissions

If you'd rather change who can see what the app is sending, you can change the various settings by tapping on them. For example, an app might be set to share information publicly. Tap on it and you can share with just your Friends or Family circles instead, or keep it private completely if you prefer. You can also change the people that the app can see as well.

5. Tap finish

When you're done make sure you tap the Finish button at the bottom of the pop-up boxes rather than tapping back, otherwise Google+ won't remember your settings. It's best to check apps as you install them to see if they connect to your Google+ profile and also remember to revoke permissions from time to time from those apps that you have uninstalled.

[FIG 4] The various settings are all well explained, so it's unlikely you're going to change anything you shouldn't. Tapping the menu button brings up a help box



faq

Ask your own question online at **littlegreenrobot.co.uk**

Is there any point keeping any Google+ apps connected?

Absolutely. Try to manage who's getting the info though. Your gaming friends are probably quite interested in your high scores. Your mum probably isn't.



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Works with » Android 2.1 and up

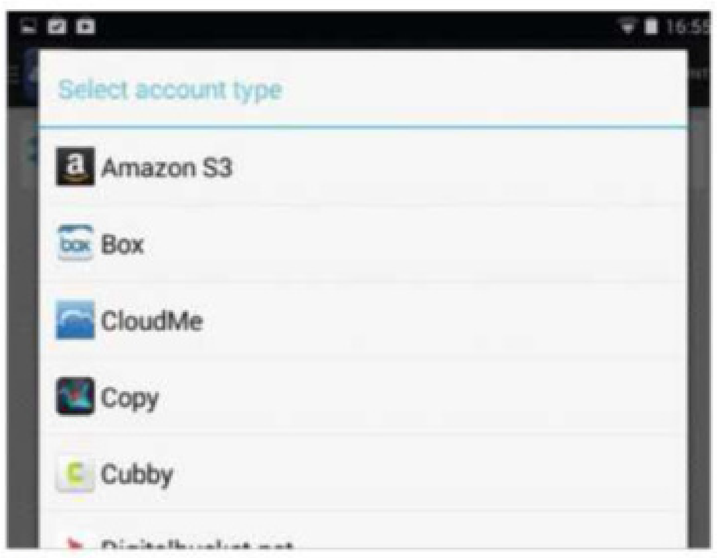
How to work with multiple cloud services

Get all of your cloud services working as local drives on your Android device

Everything is in the cloud nowadays, and you've probably got multiple cloud storage accounts packed full of files and folders, half of which you never access because you've forgotten the passwords. FolderSync lets you access all of your cloud services from a single app, joining together all of your accounts so you're not constantly swapping between them to grab the files you need. More than that, it lets you pair up folders, meaning you can treat some or all of your cloud-based documents and files as local. Pairing up the folders and setting a syncing system means you'll be able to make sure changes you make in the cloud are replicated on your device, but you'll also be able to send and share them with ease from your Android device. In this tutorial we'll walk you through how to pair up cloud and local folders, show you how to set up a sync and explain some other useful stuff you can do with FolderSync.

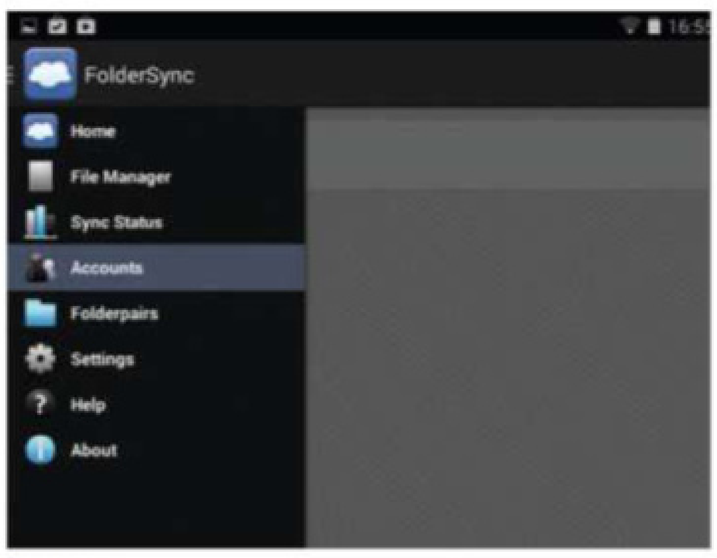


Get your cloud activity organised



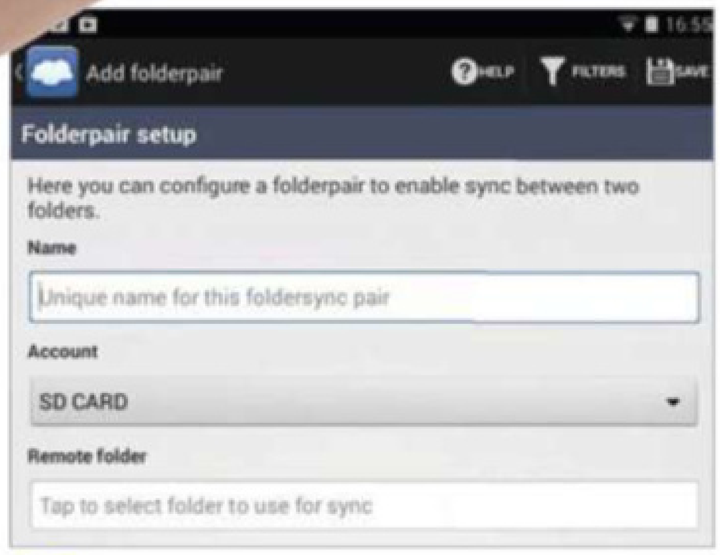
1 Check your accounts

First up you need to make sure you've got the right accounts linked to FolderSync. To add an account, simply tap on the Accounts button on the front page and then tap Add account. When you're done, bring up the side menu by tapping on the icon in the top corner.



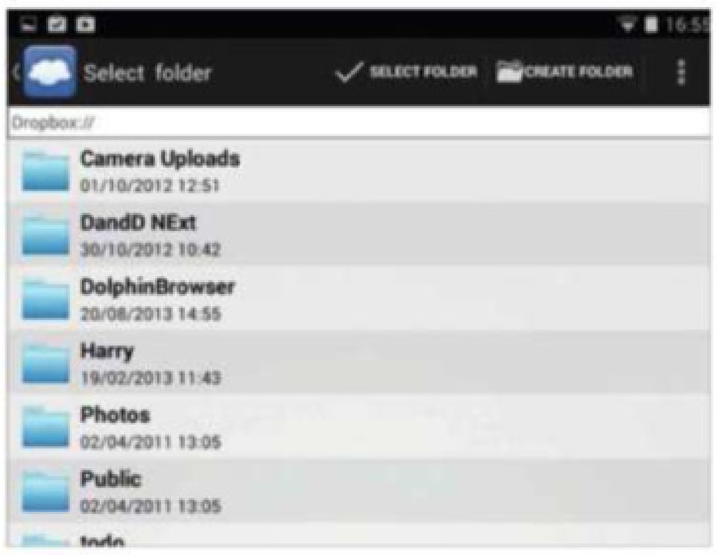
2 Head to Folderpairs

Once the side menu is open you'll see an option just below the Accounts tab called Folderpairs. This is where you want to go to start sorting out the connections. Tap on it and you'll be taken to a black screen with a button. Now tap on Add folderpair.



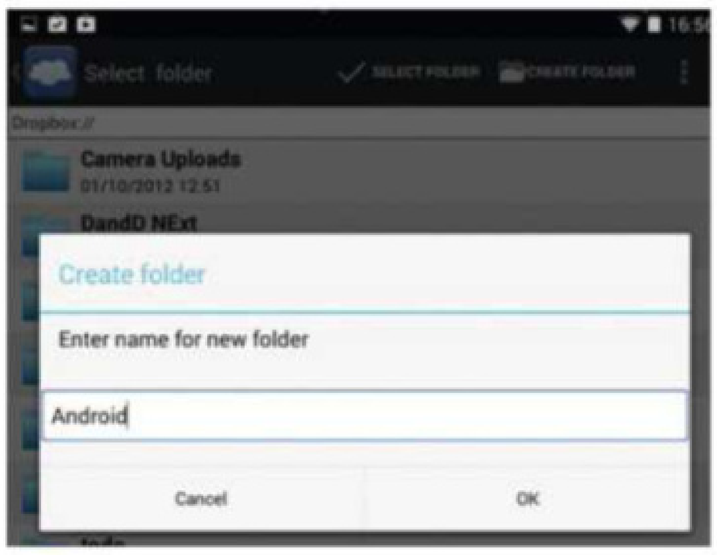
3 Fill in the blanks

First up give your new folderpair a name. Something simple and memorable will do. Then you need to choose which account you want to use to create the folder in the drop-down box. Make sure it's one of your cloud accounts and not your device's memory, then scroll down.



4 Find a folder

Next up you'll need to tap on the Select folder box. This will take you to the folders in your cloud account. Tap on the one you'd like to use and you'll be taken back to the main menu. Alternatively, you can look at the buttons in the top-right corner.



5 Create a folder

If you want to, tap on the create a folder button. Give the folder a memorable name so you know what it's there for. A simple name that's easy to spot is your best bet in this case. Once it's made, tap on it from the list and you'll be taken back to the menu.

5 quick tips

Five tips to get the most out of FolderSync

1 Make sure you sync
Setting a sync schedule helps you keep your cloud files together and means less fuss.

2 Set up a pin
If you want to make your files as secure as possible set a pin in the security section.

3 Set a backup
You can set FolderSync to automatically back up your files to SD if you want.

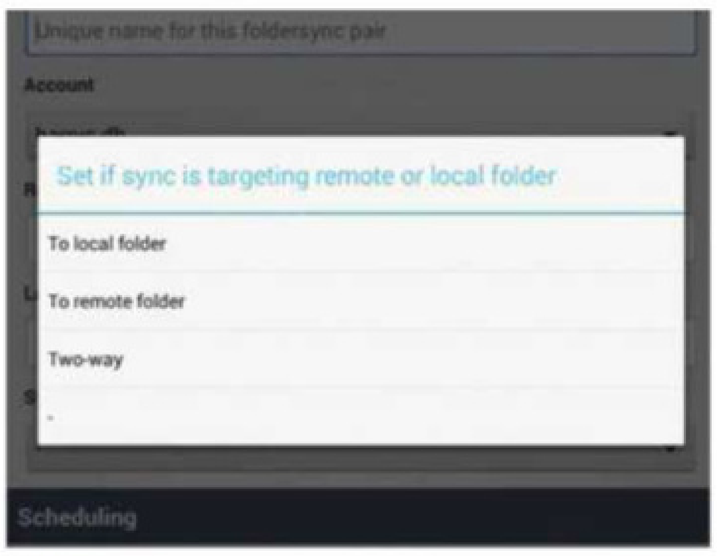
4 Allow root access
If you've got a rooted device you can allow access in the General settings menu on that device.

5 Pick your startup screen
You can select your startup screen in the general Settings menu to bypass superfluous tapping.



6 Create a second folder

Next up you're going to have to go through the same process to create a second folder on your device's memory. If you're going to put it somewhere, choose carefully, and make sure there's nothing in there you don't want syncing. It's usually best to start a new folder entirely.



7 Set up the sync

Now you can choose how you want to set the sync. If you want the folders to stay synced, set it both ways. If you want to control one from the other, choose that option. It's best to have it set both ways if you want to stay bang up to date with everything.



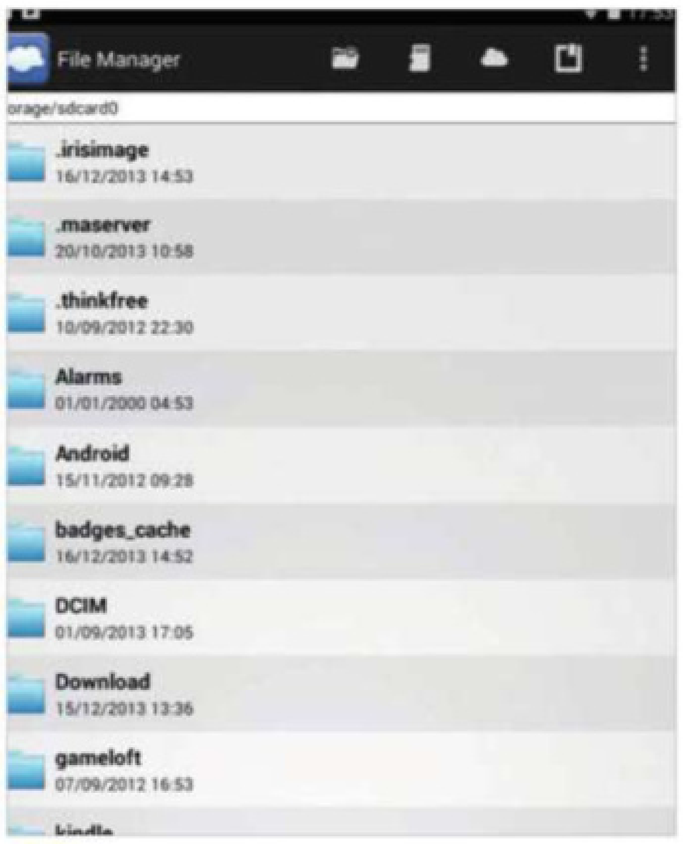
8 Schedule your sync

Last but not least, you need to choose when you want your folder to sync, how often, and a variety of other options. Set them to your liking – you can always change them later. Choose the connections you'd like to use to sync, then tap Save and you're done.

2 min guide

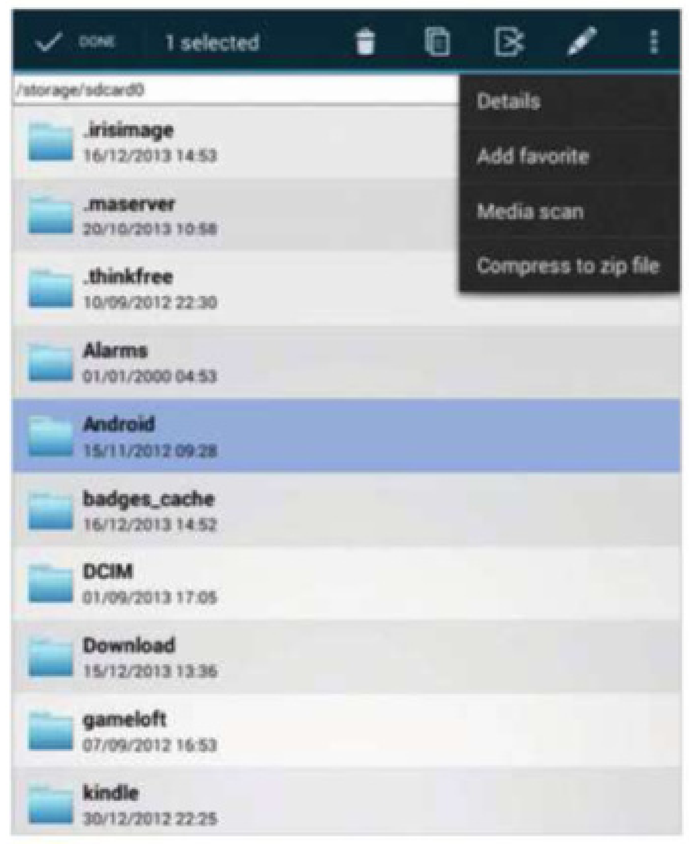
Add favourites to FolderSync

If there are folders you use often, you can add them as favourites in File Manager to make browsing easier



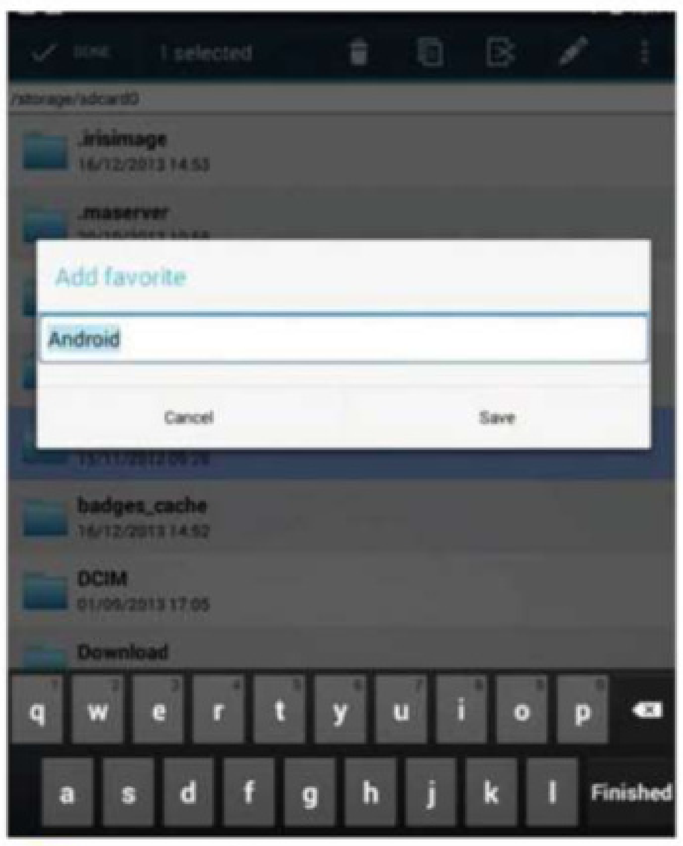
1 Find the file

First locate the folder you want to favourite. The various connected storage devices and cloud services are marked along the top of the screen. Choose the one you want and then navigate your way to the correct folder. Long press on it to bring up a menu.



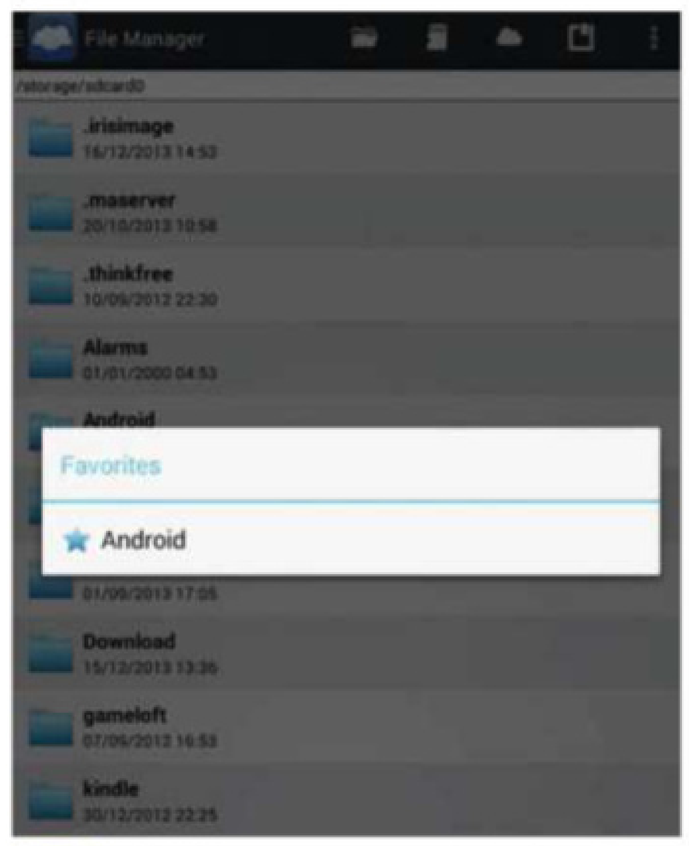
2 Add as a favourite

The long press should bring up a variety of options along the top of the screen. Tap to bring up the menu and select Add favorite. Tap on that and you'll be given a chance to rename the file. Be careful if you're renaming things on the device itself.



3 Save it

Once you've typed in the name you've chosen, or if you've decided to leave it the same, all you have to do is tap Save and the folder will be stored in the Favorites section of FolderSync's File Manager for easier access next time you want to get to it.



4 Find your way back

To find the folder again all you have to do is tap on the Favorites icon at the top of the user interface and a list of the folders you've added as favourites will immediately appear. You can do the same thing with files and other documents as well if you want.

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Did you know?

Most Android devices that support wireless charging use the Qi standard. This means a phone is compatible with a wider range of chargers from other manufacturers, and you're not restricted to using only the one produced by your phone's maker. That said, do check reviews before you buy as there can be a few quirks that affect how they work with certain products.



Can't shoot in widescreen

"I've recently got a Nexus 5 and I really like it. However, I am having a few issues with the camera. I installed the 4.4.1 update which improved its speed considerably, but I still cannot find any way to shoot in the 16:9 image format. The only option in the camera app requires the shot to be reduced to two megapixels"

Neil Baker



The camera options are very limited in the KitKat app

A You're right that the camera in the Nexus 5 was vastly improved following the update to Android 4.4.1. It now gets the best out of what is quite powerful hardware and is able to match many of the other top devices on the market. However, the camera app itself still leaves a lot to be desired. It is woefully lacking in features, and the strange UI controls make it more difficult to use than it should be too. One of the limitations is in the shooting formats. The Nexus 5 is set up to shoot in 4:3 ratio by default even though the preview fills the entire screen, which is 16:9. The bad news is there is no way to fix this problem as third-party apps cannot directly access the camera hardware. As a result cropping your image after it is taken is the only way to get the widescreen shot you desire. It is an extra step and is inconvenient, but the viewfinder will help you frame the shot for that ratio! We would very much recommend using a third-party camera app to replace the built-in one, if only to overcome some of its limitations. Using an app like Camera ZOOM FX or Camera Awesome will give you a viewfinder preview that is the same shape as the shot that will be output. There are also a lot of desirable extras included, like burst mode or time lapse, as well as a range of editing and sharing options that fix up your shots without switching apps.



Camera ZOOM FX gives you a huge range of extra options for shooting

Ask your questions

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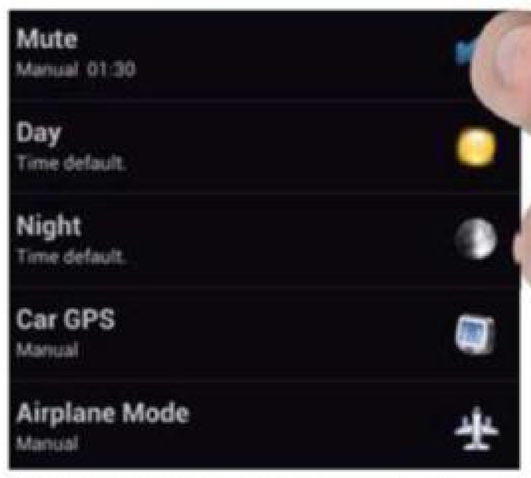
4.3 is causing big problems

"I have updated my Galaxy Note 2 from 4.1.2 to 4.3 and used Phone Weaver to automatically turn the phone off at night and on in the morning. This app no longer works. Phone Weaver said it's because Google has limited access to Airplane mode for applications in 4.3. Unless you know of another way of pre-setting the phone, Wi-Fi etc to turn on/off automatically, I want to return to 4.1.2. How can I do this please?"

Nigel Hastings

A You can try to downgrade your Note 2 to 4.1.2, but the process is extremely complex and will require rooting, flashing and other tweaks. If you are determined to go this route, we would suggest looking at XDA Developers to view a few different methods. As we looked further into this, we noticed other apps including Profile Scheduler+ are having the same problem with version 4.3, and that while investigations continue, it may be difficult to find a solution that will automate the tasks you need. Many automation apps still do not list this problem on Google Play and this could be down to the fact that they have not been updated recently, but the best advice is to wait and see if workarounds can be built in the near future. The limitation was actually introduced in 4.2 by Google for security reasons, which means that third-party applications are no longer able to toggle the Airplane mode feature and this of course causes problems with automation. We do, however, feel that turning Wi-Fi on and off from the top bar is not a time killer and so there is still a quick solution, but we also fully understand the appeal of full automation and can see why so many users love the fact it all happens in the background. We hope this helps.

"We noticed other apps including Profile Scheduler+ are having the same problem with version 4.3"



Automated tasks are a huge benefit of the Android system

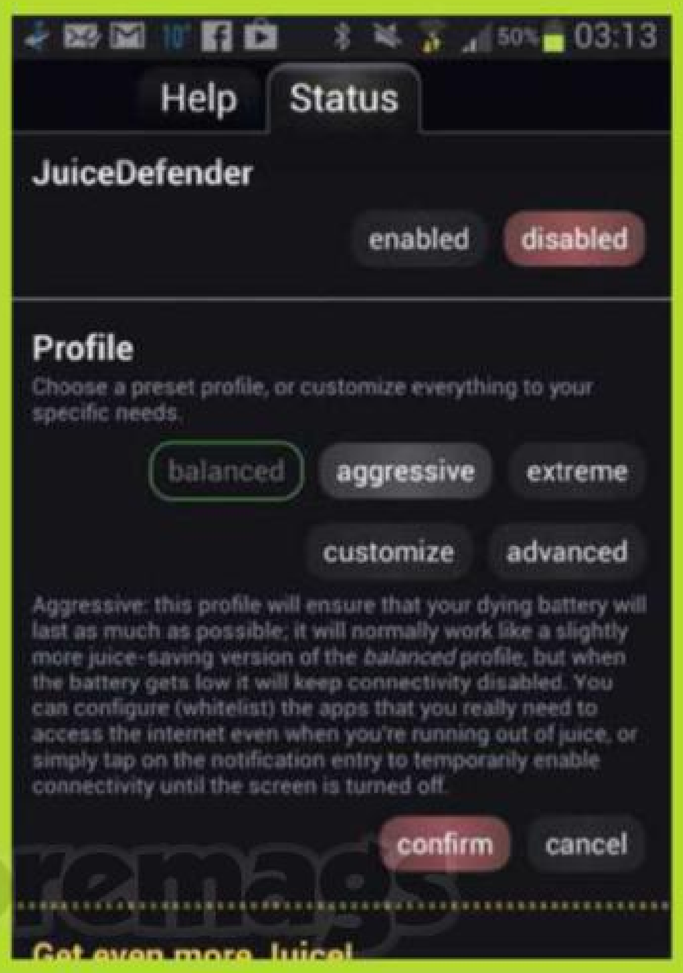


For some people, the latest Android updates may not be ideal

hints & tips Get more from your Android phone with our handy hints

1 Manage your battery

JuiceDefender Ultimate is not a cheap app, but it is one that gives you complete control over your Android battery. From detailed schedules to configuring individual apps, you can manage every single aspect of your device's power and change settings every day to your exact needs.



2 Advanced HTC settings

If you carefully type in *#*#3424#*#* on the Phone app on most HTC devices, you will be able to manage advanced settings and troubleshoot your device's problems. You should, however, be very careful because you can easily change a setting that affects the running of your device, and no one wants that to happen.

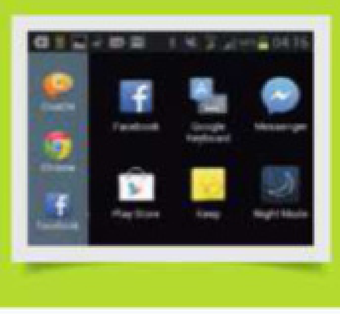


3 Control music volume

Some Android devices, such as the HTC One, can be too loud when playing music, but the Music Volume EQ app – a free download from the Google Play store – gets around this by letting you decrease the volume to a lower level than standard. It also offers finite volume control over the entire range.



storemags



Did you know?

To quickly turn on and off the multi-screen view on a Samsung, simply hold down the back button and it will toggle as required. Sometimes the multi-window option can disappear for no reason, but this simple method will bring it back straight away.



Slow performance can be caused by many different factors

Slow phone

I am having big problems with my phone, which include it running very slow, not ringing sometimes, typing several letters at once as well as taking ages to access the phone and texting. Sony have given what is meant to be a fix. This done, I didn't notice any improvement. What can you suggest?

Sandra Holden

A It does sound as though there is a general software problem with your Android device, but it is very difficult for us to be exact because you haven't mentioned which Sony you own. If it is a budget device and there is an overly ambitious update from Sony then you would need to persevere with them.

If, however, you are using a high-end smartphone then you may need to look at backing up the entire device and formatting it to a new state to rule out problematic applications or functions that are using too much of the device's CPU. You can then re-install each application, if it is running okay without any issues, and see which app is causing the problem.

If we knew the model of your smartphone we could offer a more exact answer, but this procedure is useful for most performance problems, if a little drastic as an initial solution. Let us know how you get on!

The DCIM folder

I have a folder on my Samsung Galaxy 10.1 tablet called DCIM. Whenever I try to access this folder, even to expand it in the tree, I get a Processing... notice which just goes on forever. The only way to stop it is to tap the home/recent apps button and swipe it off the screen to close it down. Why does this happen, and how can I cure it please?

Andrew Phillips



There are many ways to deal with folder access problems

A This must be very frustrating, especially because you say in your full question that you are able to access these sub-folders using a standard file manager. It is not actually an uncommon problem on Android, but there are some methods you can use to try to see what is inside the folder.

Firstly, we would suggest connecting your tablet to a PC using MTP mode. You can select this setting when it is connected from the notification bar. The tablet and all of the contents in the DCIM folder should now be accessible. If the DCIM folder you are referring to is on a micro SD card, please check that the lock is not in place or slightly moved over and try to copy 'all' of the files to the PC.

If every file within the DCIM file is backed up safely, format the SD card, restore your data and try over again. If the folder is on internal memory, remove the SD card and then try accessing the files. That should work.

Streaming from Spotify and the rest

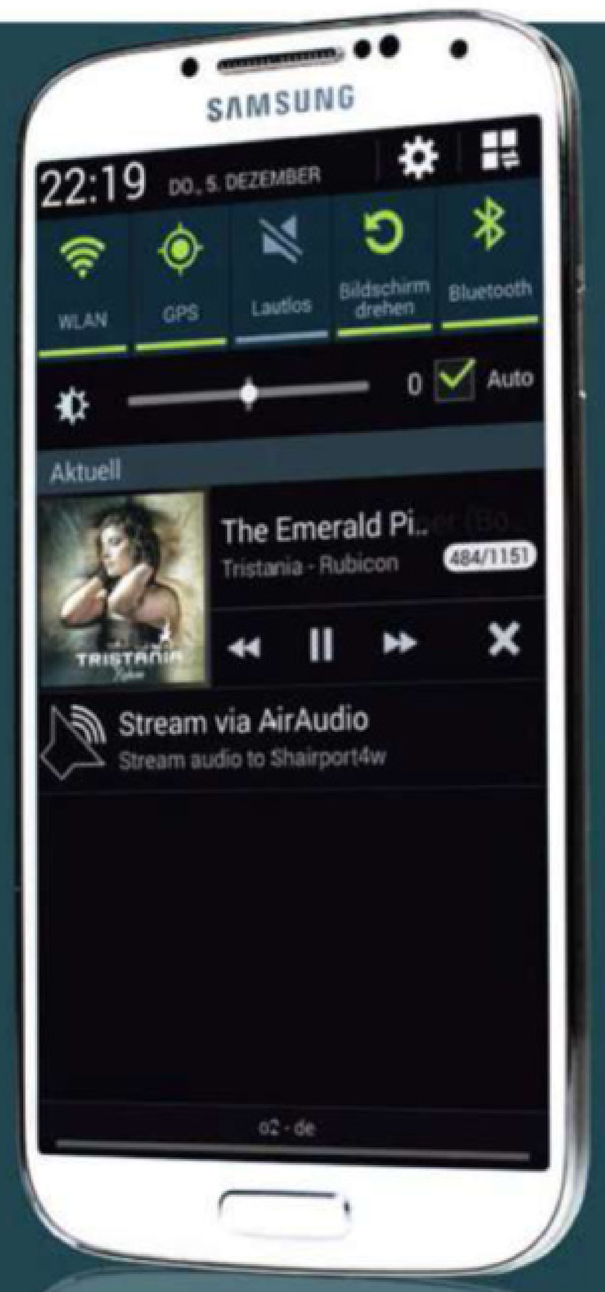
"Do you know how I can stream music from Spotify and other services, and then send the music to my AirPlay or DLNA-ready hi-fi receiver? I can't seem to get it to work at all."

Martin Vince

A By default, Android as an operating system does not allow the streaming of content from services like Spotify, but there is a solution if you are prepared to go to some trouble. You may need to root your device, which is the hardest part of the entire process. No fancy new OS version is required, but a root is our first solution, so read up on how to do it for your particular device. Once you have done this, try an app called 'AirAudio - AirPlay for Android' which is available from Google Play. It will let you stream from Rdio, Spotify and many other services to a variety of devices including Apple TV, AirPlay-enabled receivers and others. The setup process is minimal and it has proved to be very reliable in our tests.

> "The experience is exceptional judging by the user reviews"

You could also test 'Streambels AirPlay/ DLNA Player' which is free for the first five days. No root is required and the experience is exceptional judging by the user reviews submitted to date. With direct support for DLNA devices and AirPlay it would seem to cover all of the bases so try this one first and then a root if you are not completely happy. At least you have a few different choices available.



Apps can help you break through many barriers

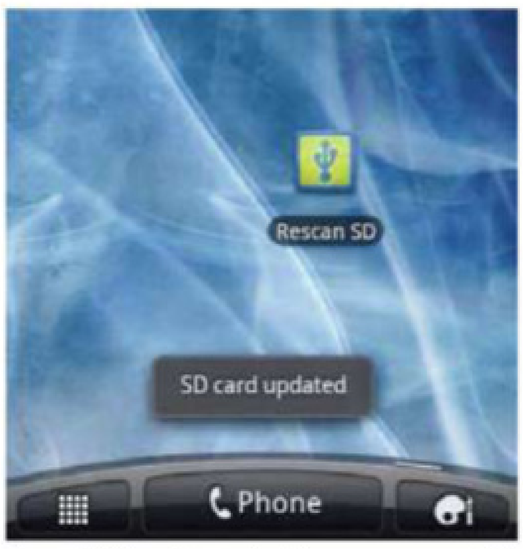
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Some third-party applications can rescan SD cards automatically

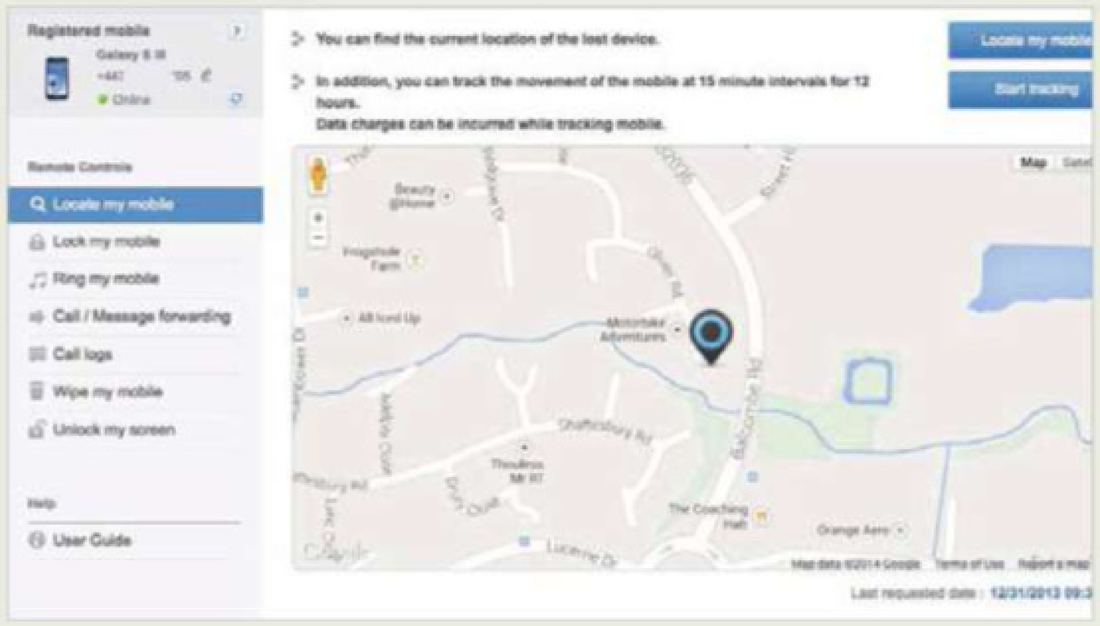
Deleted folder still showing

I have a Nexus 4 with 8GB of music folders/files. If I plug my phone in the USB port of my car radio it scans the memory for media and you can access all the folders without problem. If I delete folders from the phone, the car radio and my PC running Windows 7 keep showing them as empty. ***Rodrigo Hess***

A The main problem you are seeing here is that the external devices are still seeing the folder state that you have used previously, but they cannot find the deleted files so will simply show the folders as being there, but empty. You say that the car radio scans the memory, which is a good thing in this case because you should be able to enforce a scan on the Nexus to make the folder locations and names accurate again. There are a few apps available such as Rescan Media, from Google Play, which will rescan the file structure on your device and many others that are purposely designed to do the same for devices with SD card support.

What isn't completely clear under KitKat is how well these tools will work. This release introduced a permission regression which has stopped some of these apps from working so you may have to test a few to see if any are still capable of forcing the appropriate scan.

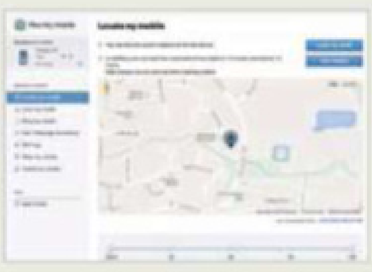
Find my iPhone for Android



Samsung's Find My Mobile service is extremely flexible

"I have a new S4 and travel quite a lot, but am paranoid about losing it. Is there a service like the one my husband uses for his iPhone? He says that it is very reassuring to know that he can do things to protect his phone even if it gets lost." *Jenny Howles*

A Hi Jenny. There is indeed a service available from Samsung and in our opinion it is more fully featured and more flexible than Apple's equivalent offering. We have included a simple step-by-step guide for you to follow and once you have set up the Find My Mobile service, you will have all of the reassurance you need. There are so many useful features included that it is unlikely that you will lose your data if your phone is protected with a lock code and you will be much more likely to get your phone back. Everything from wiping the content to sending a message to the person with the phone is there alongside more covert features such as seeing who they are calling and tracking its exact whereabouts on a real-time map. Of course there is never any guarantee of getting a lost phone back and the best method is to be extremely careful with it in the first place, but we are happy to state that anyone who owns an Android phone should be using the Find My Mobile service. It offers great peace of mind.



1 Set it up

Go to **http://findmymobile.samsung.com** and follow the instructions to set up a new account, making sure you include full and accurate details of your Samsung phone. You will need your phone with you to complete the process.



2 Lock your phone

If your phone gets lost, you can easily see its location on a map or lock it and include a message on the front screen. It's not guaranteed, but it may help you gather enough information to get your phone back.



3 Wipe the data

As a first or last resort, depending on how important the data on the phone is to you, the ability to wipe the internal storage and expansion files is available. This is by far the best way to protect your information.



update update

» We bring you the news and rumours on the latest Android updates, and the phones that can run them...

The focus of Android updates may currently be on KitKat but, as is the way in the Android world, some devices are still in line to be updated to Android 4.3. It is mostly older or mid or low-end handsets that fall into this category, but updates are on the way for Sony Xperia devices like the Xperia T, V and SP, while some newer Sony phones and phablets have also recently received 4.3 updates to improve performance while they wait for the 4.4 update to drop. The phones on 4.3 won't benefit from the lower RAM requirements that make up one of the best parts of the latest version of Android, and it seems increasingly likely that the promise that KitKat could revitalise low-end hardware will remain unfulfilled. Although the OS could run on cheaper hardware it does require the will of the manufacturer, and that may be lacking. The biggest name casualty of the upgrade program to date is the HTC One X. Despite being less than two years old, and one of the most powerful phones on the market when it was released, HTC has stated that it will not be updating the phone, to the dismay of many of its users. The One X+ is in the same position. Both phones will stay forever on 4.2.

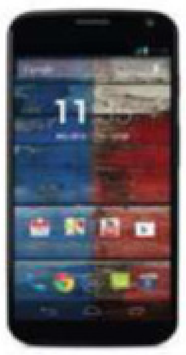
Explore the limits of your Android device

Hacker Zone

status update

Which devices are best for the hacking scene?

Moto X



Rooted? Yes
Active Development: Low
The X has been rooted and there are some mods available for it. Development is not high, but may improve following the phone's global launch.

Moto G



Rooted? Yes
Active Development: Low
Another Moto phone with modest support from devs. Maybe the speedy update to KitKat made hacking less important.

Google Nexus 5



Rooted? Yes
Active Development: High
As easy to root as any other Nexus, the 5 will almost certainly become a test-bed for ROMs and mods.

Nexus 7 (2013)



Rooted? Yes
Active Development: Medium
Easily rooted and with almost unlimited potential for hacks and mods should you need to improve on what you've got.

Tips and tricks

Use a custom ROM on your Chromecast

Lots of us use a custom ROM on our Android phones and tablets, so why not use one on the Chromecast too? If you have a device that is running the original, rootable ROM, then you can flash your device to the Eureka-ROM from **http://mdc.gd/eurekarom**. Additional features already available include root SSH/Telnet/ADB access, the ability to modify the DNS servers (they are hard coded in the stock image), a built-in OTA update engine and a web-based control panel.

Not all Chromecasts are able to run the custom ROM as it relies on the device running an early software release that has the root flashing vulnerability. For this reason, if you buy a Chromecast to use Eureka-ROM, make sure you don't let it auto-update before you try to flash!



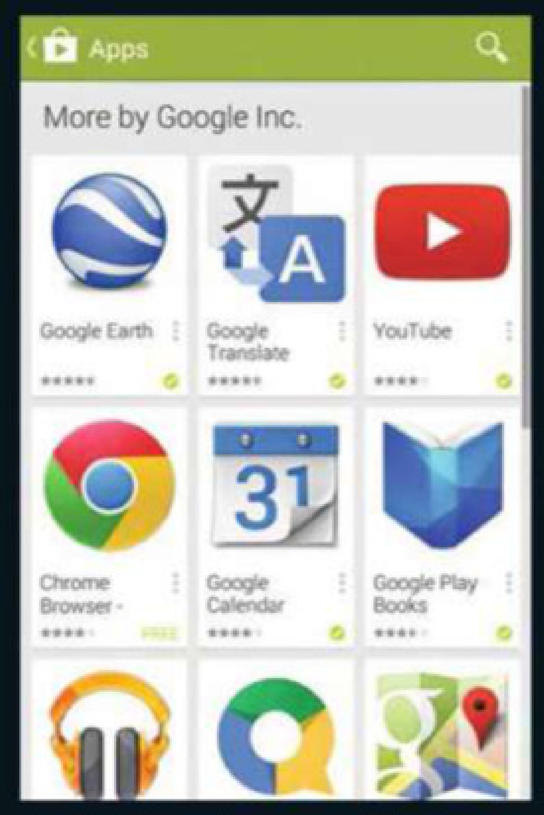
Modify Chromecast, just like your phone

A key advantage of using the ROM is that allowing you to specify custom DNS servers enables the use of services like unblock-us for manually specifying Netflix regions, maximising the content that is available to you.

Use ART-compatible Google Apps on KitKat

If you have updated your device to Android 4.4 KitKat, then there's a good chance you've had a play with the new ART runtime. If not, why not? ART is a work-in-progress replacement for the Dalvik Runtime that has underpinned Android up until now. While it is still very much in the testing phase, lots of users are reporting noticeable performance improvements after switching, albeit at the expense of the occasional compatibility issue.

If you are using a ROM such as CM, AOKP or PA, you can help mitigate core Google application compatibility issues with an ART compatible GApps package. Paranoid Android has now updated all of its packages to be ART compatible – visit **http://mdc.gd/pagapps** to download and install.



Switch to ART and use compatible GApps

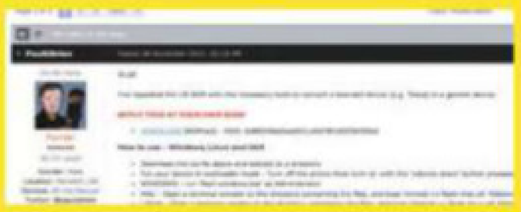
Hide your root access with RootCloak Plus

Rooting a device offers lots of useful features, but unfortunately some apps – particularly those that deal with streaming video content or banking – detect when a device is rooted and stop working. Which can be rather frustrating. Thankfully there is a simple and easy-to-manage

quickhacks

Moto G and new ROMs

When you buy a retailer or operator branded device such as the Moto G, it's generally because it works out cheaper. The downside is you can often wait longer for ROM updates. Thankfully converting the G to a generic ROM is quick and easy!



1 Download the generic ROM

The generic ROM for the Moto G is available to download from **mdc.gd/motoggeneric**. The 420MB zip file contains the full, standard Android 4.3 ROM for flashing from a Windows, Mac or Linux PC. Flashing will wipe your device, so back up!



2 Prepare for flashing

Extract the zip file to a directory on your computer. This reveals the batch script you need to flash your device. After backing up important data, turn off the device, plug it in to your computer via the USB cable and then press power and volume down to enter the bootloader.



3 Run the script

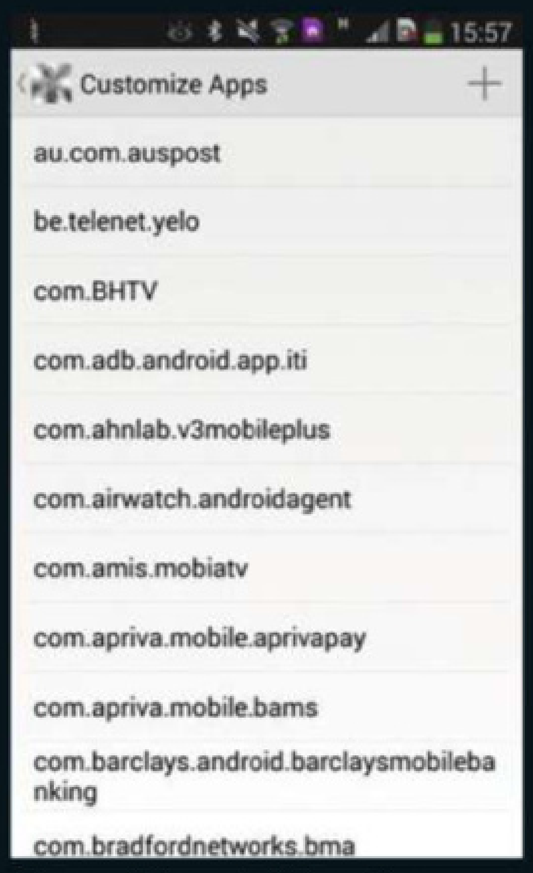
If you are on Windows, run the flash-windows.bat script as administrator, on Mac type 'chmod +x flash-mac.sh' followed by 'sudo ./flash-mac.sh' and on Linux type 'chmod +x flash-linux.sh' followed by 'sudo ./flash-linux.sh'. Your device will flash and when booted, check the 'about' screen to ensure it's worked.

Share your tips

Discovered a great hack or tweak? Let us know!

» facebook
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Like us on Facebook to join our online community

» email
qa@littlegreenrobot.co.uk
Is there anything you'd like to see us cover in the mag? Drop us a line!



Choose which apps to hide root from

solution to this problem in the form of RootCloak Plus, a free download from the Google Play store.

RootCloak Plus was originally built on the Xposed Framework but has now been ported instead to use Cydia Substrate which, like Xposed, enables modules to hook into the low-level functions of the device to change the way that they behave. By utilising this functionality, RootCloak Plus can intercept calls that are checking for the presence of root files, thereby telling your chosen applications that the device is unrooted when really it is. Sneaky!

The app isn't flawless, some apps still slip through the net – Sky Go being a prime example of a popular service not supported – but for most of the time it does a great job. Head over to page 60 for a complete guide on setting up and using RootCloak Plus. Do remember there may be some security implications to using it, so proceed with caution and only use when necessary.

> "Pull them apart to view the code and see exactly how things work"

Convert a regular Oppo N1 to Cyanogen Mod

The Oppo N1 is the first device in the world to ship with the CyanogenMod operating system pre-installed. The version of CM that ships on the device is fully certified by both Oppo and Google, meaning that there's no need to mess around flashing GApps as you would on other devices. Not all N1 devices have shipped with CyanogenMod on board however – the non-CM edition devices ship with Oppo's own ColorOS. Should you have a device with the Oppo operating system and you'd like to try CyanogenMod, then fear not, you can. Full details on how to install the ROM can be found at **mdc.gd/cmoppon1** but the process is very straightforward. Simply download the flash file, turn off the phone, install the ROM from Oppo recovery and you're done. Note that switching OS will effectively perform a factory reset, so ensure you have backed up your files first. If you do decide you prefer ColorOS, reverting back is just the same process but using a stock firmware image instead. Easy!


CM isn't just for special edition N1s

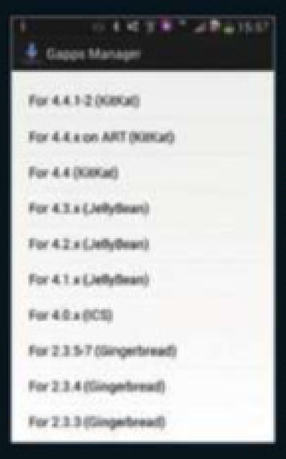
Decompile apps on device with Show Java

A nice feature of Android is that the whole platform is very hackable. Not just hackable for changing things, but also hackable for seeing what's going on under the hood. You can download the source of the OS, pull APKs off the device and then pull them apart to view the code and see exactly how things work. Up to now, if you wanted to strip an application back to Java code, you've had to do so with the help of a PC.

This is now no longer the case. Available to download from **mdc.gd/showjavaapp**, the unimaginatively titled Show Java application is very easy to use and displays an application's code in a clean, syntax-highlighted form. The decompiled source can easily be copied later from the SD card and the simple-to-use source browser includes a summary of all decompilation errors. It's extremely powerful and works well both for developers and those wanting to just have a poke around.

Hacking the easy way

Get great new features without getting your hands (too) dirty



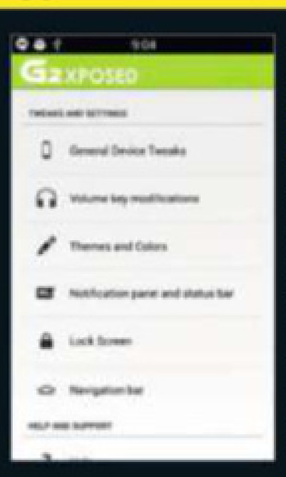
GApps Manager

» **Free**
From: Play store
Need root? No
GApps Manager lets you quickly and easily download the proper GApps flashable zip package for your ROM. All OS versions from Gingerbread to KitKat are included.



Modified N5 Camera app

» **Free**
From: http://mdc.gd/n5camera
Need root? No
Updates did a lot to improve the sub-par camera on the Nexus 5 and now an enterprising owner has created a mod to improve things further.



G2 Xposed

» **Free**
From: Play store
Need root? Yes
G2 Xposed is a module for the Xposed framework that provides a huge number of tweaks for the LG G2. One highlight is the ability to remap the navigation bar.

Jargon Buster

Get up to speed on all the terms you need to know when hacking your phone

OS
Short for 'operating system'. Often the Android ROM will be referred to as the OS – this just means the system files on the Android device that make up your user experience, similar to Windows, Mac OS X or Ubuntu on a desktop computer.

ROM
Stands for 'read-only memory'. In the context of Android, the ROM refers to the files that make up the operating system installed on your device. Gaining root privileges allows for replacement of the standard ROM with a custom one.

Root
'Rooting' your phone gives apps access to parts of the OS that are normally hidden from consumers. This enables you to run more powerful software and install custom ROMs on your phone.

ROM Manager
An app available from the Android Market that enables you to install a whole new version of your OS with a single click. It requires a rooted phone to use and is ideal for those new on the scene.

Titanium Backup
This app from the Market enables you to back up everything on your phone – apps, data, settings and all. It means that you can restore your phone to how it was, even after you've updated or changed the ROM.

Unrevoked
Available from **www.unrevoked.com**, this is a one-click tool that can be used for rooting many popular HTC smartphones.

ADB
Stands for 'Android Debug Bridge'. ADB is mainly used for software development, but it also has some uses for hacking your phone. It can be used to push files onto the system folder, for instance.

Nandroid
You might come across the phrase 'perform a Nandroid backup'. This means using a custom recovery tool to make a back-up image of everything currently on your phone: OS, apps, data, etc. It's very useful should you wish to restore your phone to its previous state later.

Radio
'Radio' refers to the software on your Android device that deals with making phone calls and data connections. Updating your radio version can bring better battery life and signal strength to your device. Some ROMs require the latest radio.

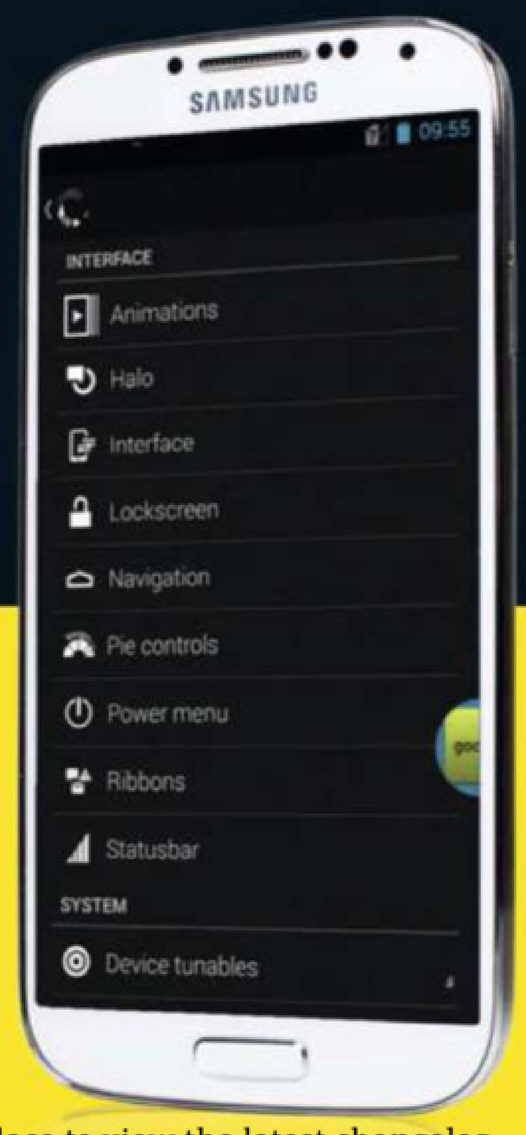
Flash
The storage in your device comprises flash memory, a type of solid-state storage. The terms 'flash' or 'flashing' mean installing new software onto your device's storage.

Get tips, tricks, help & advice
Send us your comments, tips and questions through email and social networks

Works with » See www.carbon-rom.com **Difficulty** » Intermediate

Master CarbonRom: Android's best new ROM

CarbonRom is a new CyanogenMod-based custom ROM offering a host of unique features



CarbonRom is a new custom ROM based on CyanogenMod/AOSP. The CarbonRom mission is to deliver a ROM that is fast, stable and feature rich, but also with a focus on providing great communication with users and complete openness in the source code.

With nightly builds, there are frequent releases with the latest and greatest hardware support and fixes contributed not just by the CarbonRom team, but the developer community too. As a CM/AOSP derivative ROM, the look and feel is very much 'stock' Android. This simple appearance doesn't come at the expense of features however – all of the unique extras and settings in CarbonRom are logically arranged to be easy to use and access courtesy of 'Carbon Fibers', a scrollable, tab-based configuration UI.

faq
Ask your own question online at **littlegreenrobot.co.uk**

Is CarbonRom Android 4.3 or 4.4?
The currently released version of CarbonRom is Android 4.3, however, the development team are busy preparing the KitKat version.

> "Many of the best features from other ROMs can be found in CarbonRom"

Many of the best features from other ROMs can also be found in CarbonRom including App Privacy, HALO, Active Display, Expanded Desktop, Enhanced Power Menu, Ribbons and much more. The **carbon-rom.com** website always has the latest builds for download for the current range of devices (over 50 at the time of writing!) and is also the best place to view the latest changelog and ROM news. You can also follow CarbonRom on Twitter or Google+ for up-to-the-minute updates.

Prepare for CarbonRom installation Download all of the files you need



Grab Clockwork Mod or TWRP
» Custom Recovery
In order to install CarbonRom on your Android device, you need to have a custom recovery loaded on to it. ClockworkMod or TWRP are the most frequently used recoveries in the rooting world – note that installation may need you to unlock your bootloader first.



Find device and download zip
» Choose carefully
The zip file containing the ROM for your device can be downloaded from **carbon-rom.com**. There are two things to bear in mind – firstly the devices are listed by their 'board name' (eg the HTC One for the UK is m7_ul) and secondly you can download both unstable nightly and less frequent stable releases.



Don't forget Gapps
» Google bits
As well as the ROM itself, you need to download Gapps in order to get all of the Google applications such as the Play store, Gmail, Google Contacts/Calendar sync and other vital features. The best option is PA 0-Day Gapps, which ensures you have the latest up-to-date set of applications.

CarbonRom FAQ

Do I need to be rooted to install CarbonRom?
You don't need root per se, but you do need a custom recovery.

My device isn't supported? Will it be in the future?
CarbonRom's developers are keen to ensure the best possible user experience and so are currently only supporting devices they physically have access to.

How do I update to a new release?
New releases of CarbonRom that aren't a different Android version can be 'dirty flashed' from recovery (ie flashed over the top of your existing version).

Can I dirty flash from my non-CarbonRom ROM?
This is not recommended. If you're coming from another ROM, you should wipe before installation.

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Comments or questions? Follow us on Twitter

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If you've got questions or just want to say hello, drop us an email

Access notifications using HALO

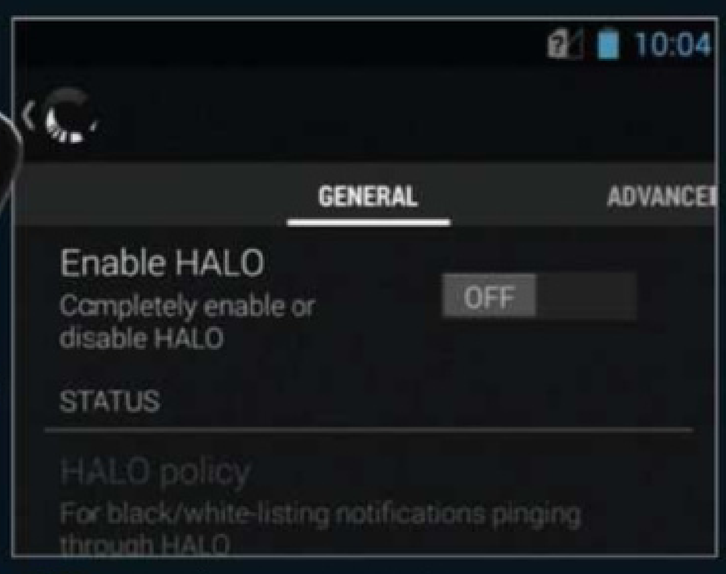
HALO frees your apps and notifications, moving them to an easy-to-access bubble

If you are familiar with Facebook's chat heads on Android, then you should be pretty comfortable with the concept of HALO. HALO enables you to manage your apps and notifications via a small bubble (the 'halo') that sits at the side of the screen.

When one or more notification appears in the bubble, a number of gestures are available to perform actions on that notification. Pressing on the bubble and sweeping inwards scrolls through notifications. Releasing your finger is equivalent to clicking on the notification in the notification bar. Scrolling upwards lets you dismiss one or all notifications, scrolling downwards hides and silences selected notifications.

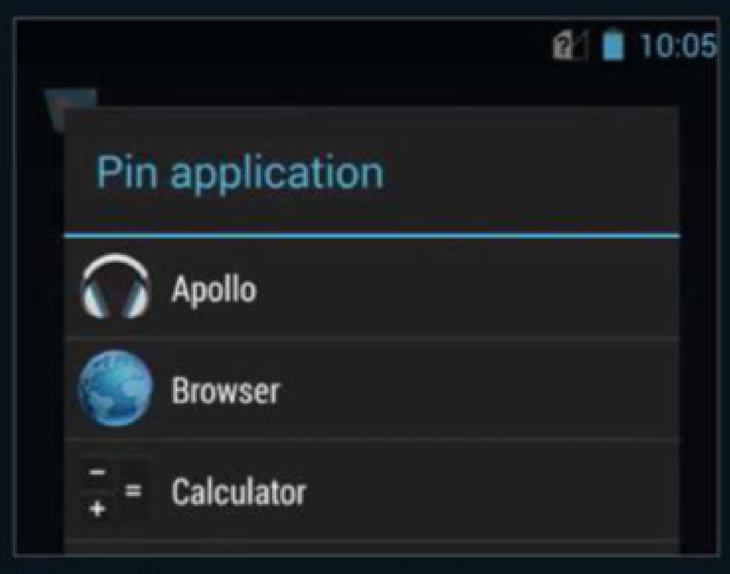
When a notification launches an app, HALO provides the option to open it either as normal or in a pop-up window. Clicking twice and dragging on the bubble lets you reposition it – it sits subtly out of view until it's needed and is incredibly flexible.





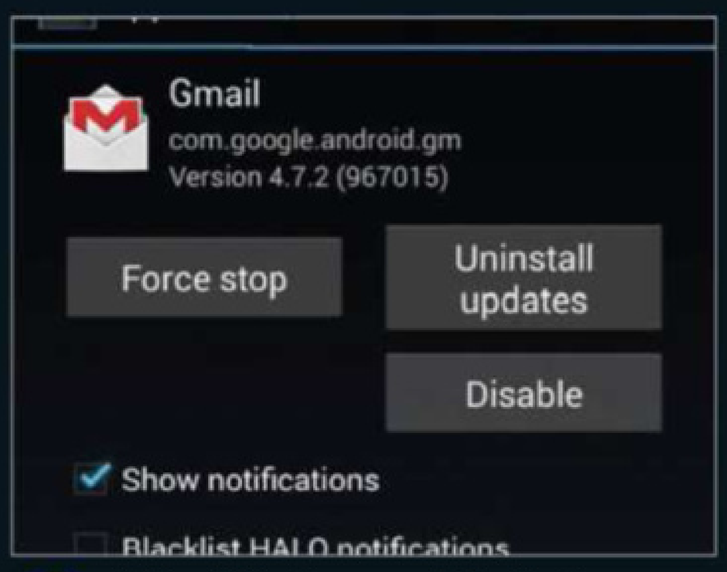
1 Activate HALO

In order to activate HALO in CarbonRom, fire up the Settings app and click Carbon Fibers. This is a one-stop shop for managing most of the customisations in the ROM. To activate HALO, click the HALO section followed by Enable HALO. An icon will appear in your pull-down menu – press to start.



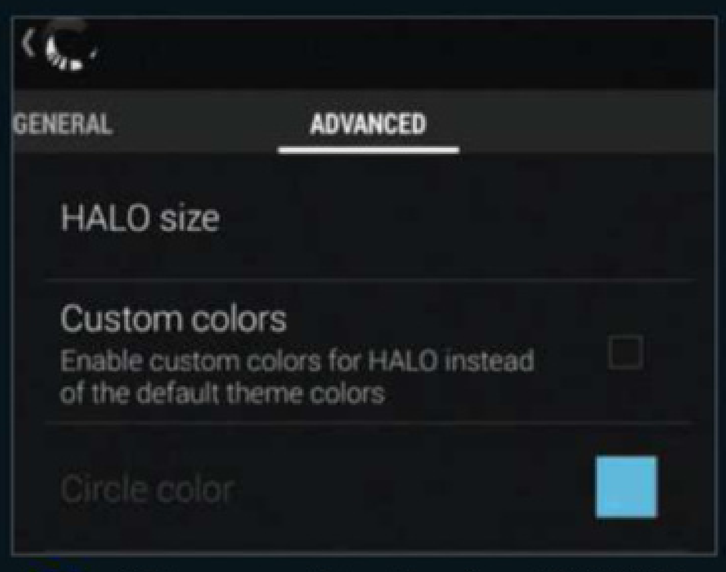
2 Pin apps to HALO

While HALO will primarily display notifications, you can also pin apps to HALO to ensure they are always easy to reach. In the launcher you'll find a HALO shortcut – this is where you set the pinned apps. Press the pin icon in the bottom-left, select an app and press the play icon.



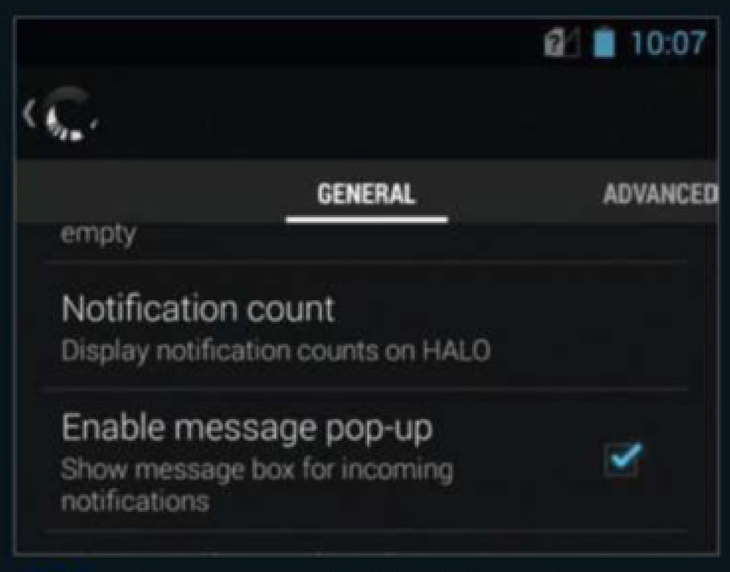
3 Blacklist or whitelist apps

While HALO notifications are very convenient, there are certain to be frequently notifying apps that you'd prefer not to pop up. You choose between blacklisting or whitelisting in the Carbon Fibers area and define the exclusions themselves in the App info page of the app.



4 Change the look of HALO

If you don't like the way HALO looks, don't worry! Luckily, customising how the software behaves is very straightforward. As well as being able to move the bubble to where you want, you can also change the size and colours, again in the Carbon Fibers section.



5 Advanced HALO setup

There are a number of advanced HALO settings that let you tailor it further to your requirements. You can choose to have it hide itself away when inactive, modify how notification counts are displayed, set HALO to ping on unlock and much more.

Get tips, tricks, help & advice
Send us your comments, tips and questions through email and social networks

Set up Ribbon shortcuts

CarbonRom Ribbons of apps and shortcuts can be pinned to areas of the screen or opened by gestures

A CarbonRom ribbon is a customisable set of buttons that can be pinned to the lockscreen, notifications area or quick settings area or set to open on left, right or bottom swipes. An Applications window is also available on a long sweep gesture with a grid of customisable shortcuts in the style of a launcher.

When defining the ribbons, it's important to remember that a lot of applications already use left and right swipe gestures in their UI, so the bottom swipe and notification/quick settings ribbons are arguably the most useful.

The lockscreen ribbon provides an easy and versatile way to add additional shortcuts for easy access when you turn on your device. Ribbons are highly customisable, while custom icons can be defined for the shortcuts allowing you to configure it to match your device style perfectly.



1 Enable a ribbon

Ribbons are configured using the Carbon Fibers app. When opened, the Settings app presents a list of ribbons that can be configured. Selecting the Notifications ribbon lets you configure what is displayed in the notification pull-down. Use the '+' button to add shortcuts and the copy button to duplicate an existing ribbon.



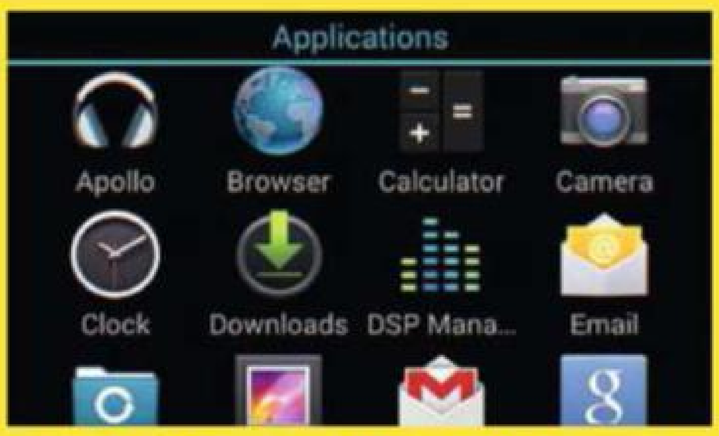
2 Add custom shortcuts to your lockscreen

The lockscreen ribbon works in exactly the same way as the other ribbons. If you are using this feature, it's worth noting if you have no lockscreen PIN or other security defined, just a click on any of the icons is enough to unlock the screen, which could lead to pocket dialling.



3 Define a custom look and feel for your device

In a ribbon's settings you can configure whether the app name is shown and specify the colour of the text as well as choosing the icon size and spacing on the ribbon. Clicking a defined shortcut will enable you to specify a custom icon from the file system or gallery.



4 Set up and view the Applications window

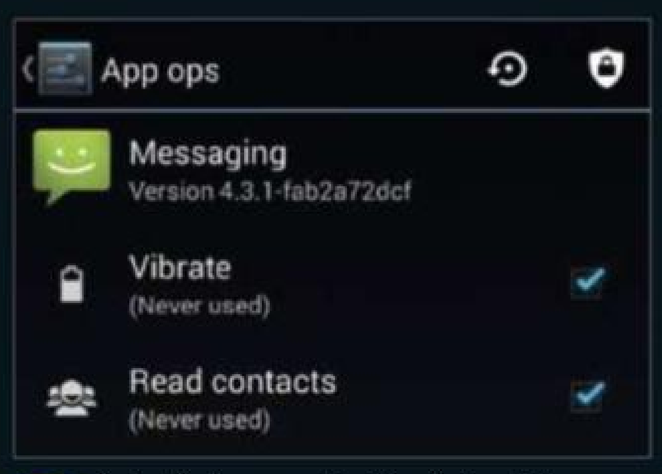
A long sweep on a left, right or bottom ribbon opens up the Applications window, which serves as a floating launcher. The grid size and window colours can be customised, as well as the opacity. You must have a ribbon enabled for the Applications window to work!

Modify missions per-app

Specify and control which device capabilities your apps have access to with App privacy



1 Selecting the App privacy option in the Settings menu presents a list of apps with the permissions that they currently have access to. This view lets you see at a glance what features apps may use.



2 Selecting an application lists all the permissions available to that app, together with an indication as to when that feature was last used (if at all). Uncheck the boxes to remove access.



3 The shield icon in the top-right enables the Privacy Guard feature. This prevents the application accessing personal data such as contacts, messages, location and call log data.

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Comments or questions? Follow us on Twitter

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If you've got questions or just want to say hello, drop us an email

Tweak your notification & status bars

CarbonRom also lets you customise the look, feel and functionality of your navigation and status bars

One of the most powerful features of CarbonRom is the ability to customise the navigation and status bars. These two areas of the screen are almost always visible and CarbonRom makes it easy to get them both looking exactly how you'd like and increase their utility.

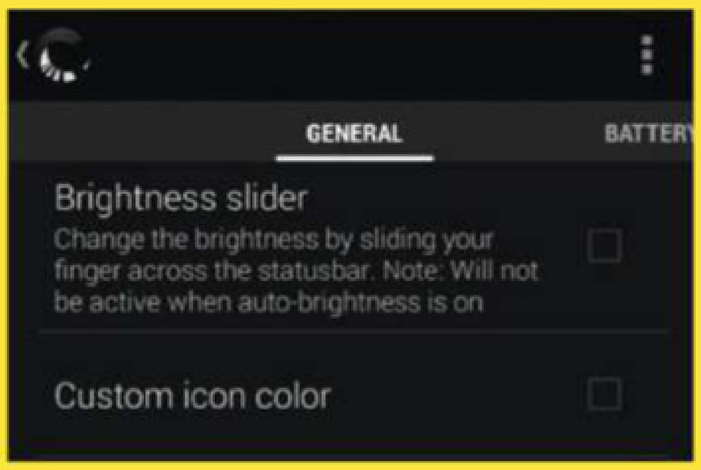
The settings for these areas can be found in the Navigation and Statusbar sections of Carbon Fiber. Within each section a number of tabs of customisations are available that can be accessed by sweeping left and right.

PIE controls can also be enabled, replicating and expanding on the functionality of the hardware buttons, accessible by sweeping up from the edge of the screen in any application. This is particularly useful in full-screen modes!



Customise the navigation bar

CarbonRom offers a huge amount of customisation for the navigation bar. The legacy menu button behaviour can be modified, the bar can be set to auto hide, the navbar height, width, colour, button colour and glow can all be changed, as can the transparency.



And the status bar

One of the neatest features in the status bar customisation page is the ability to change brightness by sliding your finger across the bar. The colour and style can be changed and quick settings tiles can be added and removed as desired. Many options are available to explore.

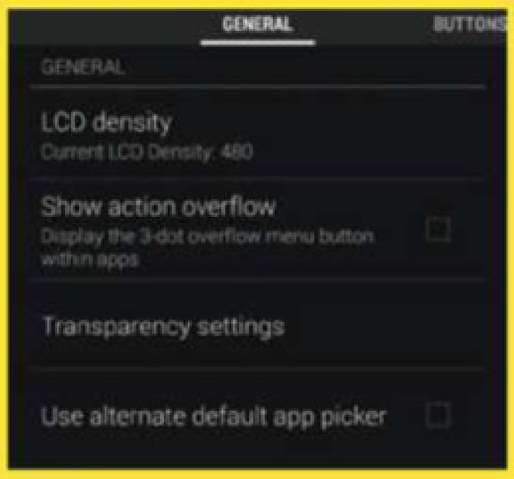


Enjoy some PIE

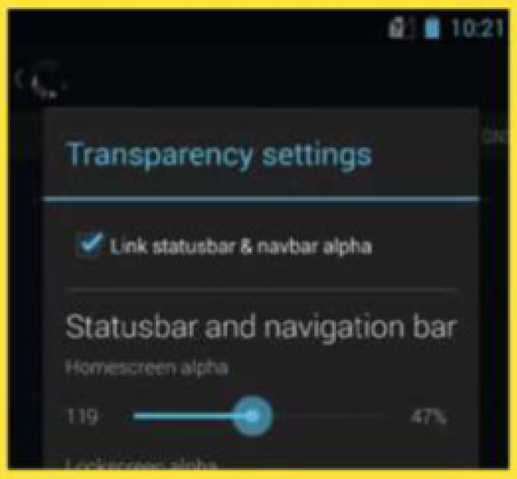
PIE controls can be enabled providing customisable buttons accessed with gestures from the bottom of the screen. The default set of controls replicate the standard hardware buttons but of course, look, feel and functionality can be extensively customised in Carbon Fibers.

Yet more interface tweaks

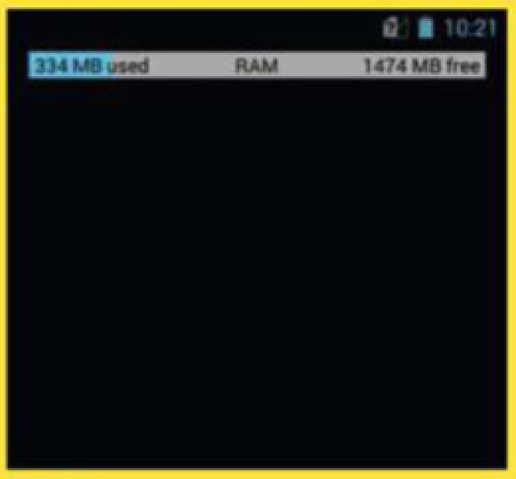
The Interface section of Carbon Fibers is home to yet more customisations to make your device your own...



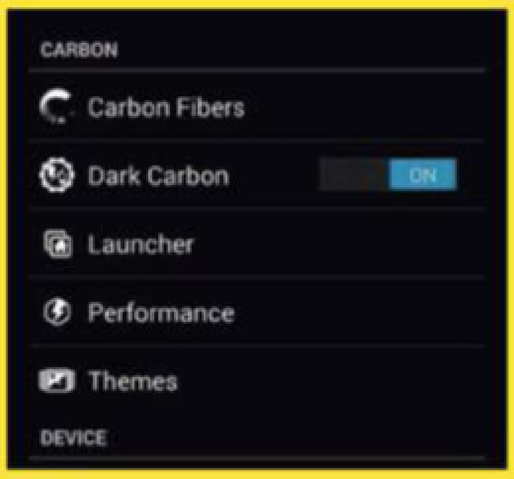
1 The LCD density can be changed in the Interface menu, a tweak that was previously reserved for brave build.prop editors. Changing the density lets you change the size of elements on your screen. This can affect the UI in use and available Play store apps.



2 Android 4.4 KitKat brings transparency to the navigation and status bars, but you can also achieve the same effect with Carbon ROM on the home and lockscreens if you wish. You can even choose the level of transparency you would like!



3 In the Recents tab of the Interface section, you can enable the Clear recents button. This adds a feature to the app switching view where you can clear all loaded apps in one hit. You can also enable an info bar that displays how much memory is in use/free.



4 The Buttons tab lets you change the default actions of your hardware buttons. Rather than having your home button long press open the app switcher for example, you may prefer to have it open voice search – very useful on devices with limited hardware buttons.

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Works with » Android 4.0 and above **Difficulty** » Intermediate

Automate Nandroid backups

With OBackup you can ensure you've always got an up-to-date Nandroid backup to restore

Having an up-to-date Nandroid backup is essential if things go wrong

A Nandroid backup is arguably the most essential part of any Android hack. It doesn't just back up your files and data, it backs up the boot, recovery and system partitions on your device too. These are the partitions that are modified when you flash a ROM or install many mods, and they are absolutely integral to getting your device to actually work. Should you ever have problems as a result of flashing anything, restoring a Nandroid backup will get the device working fully once again. It will reflash those partitions that were overwritten by your new mod or ROM, as well as your data, apps and files, and return your device to the fully functioning state it had previously been in.

Many users will become complacent with backups once they have become experienced and confident with hacking their phones. This is a big mistake. But the reason is that creating a Nandroid backup is traditionally a pretty painful task – you need to manually boot into recovery, then instigate the backup, then wait for the half an hour or so that it takes to complete, with your phone completely inoperable while it happens. The new tool OBackup takes away much of this pain. Not only does it enable you to make a Nandroid backup while still booted into Android, and leaving your phone usable while it happens, but it can also be used to make the backups on a schedule, thus further reducing the inconvenience. In this tutorial we'll guide you through using the app.



1 Download and install BusyBox

Before you begin you need to have BusyBox installed on your device. Go to the Play store and download BusyBox by the developer Stephen (Stericson). Run that app and click to install when prompted. It only takes a few seconds. Now download and install OBackup.



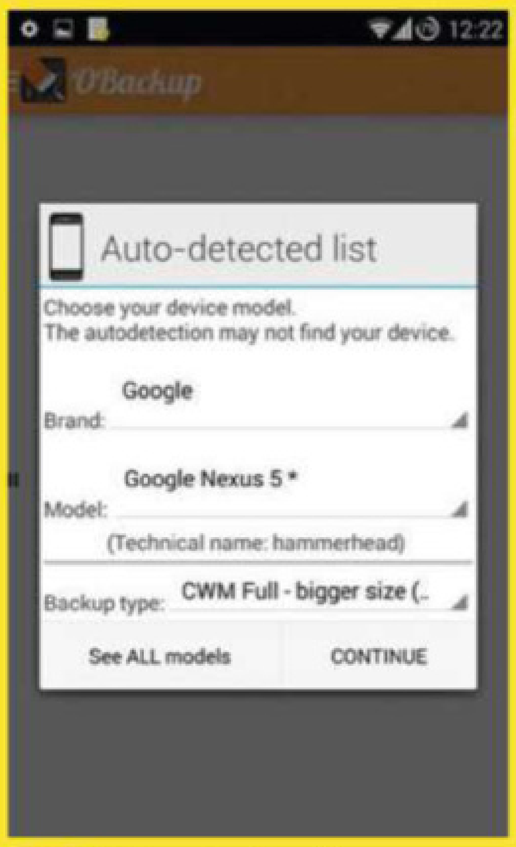
6 Start the backup

You can start a Nandroid backup simply by tapping the magic wand icon at the top of the screen. The app will run through its preliminary tests, checking for available space, ensuring the right recovery is installed. Then it will begin. Press the home button to hide the app and you can carry on using your phone.

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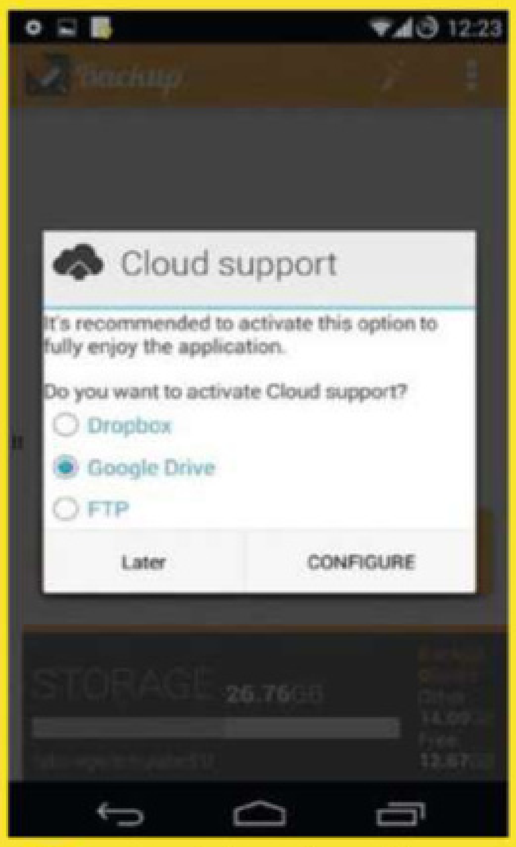
2 Start device recognition

Launch OBackup and grant root permissions when asked. The app will now try and recognise your phone, but if it cannot do so, simply pick your manufacturer and model from the two drop-down lists. Most Android devices are supported by this app.



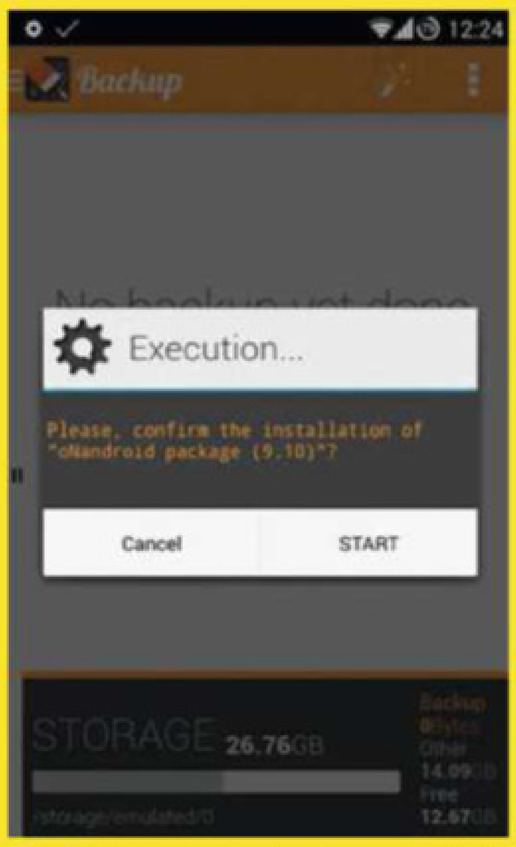
3 Choose backup type

Next you need to choose the type of backup you want to make. This requires you to know which custom recovery you have installed and, in the case of CWM, which version. Your backup options include full, incremental and compressed, depending on your recovery.



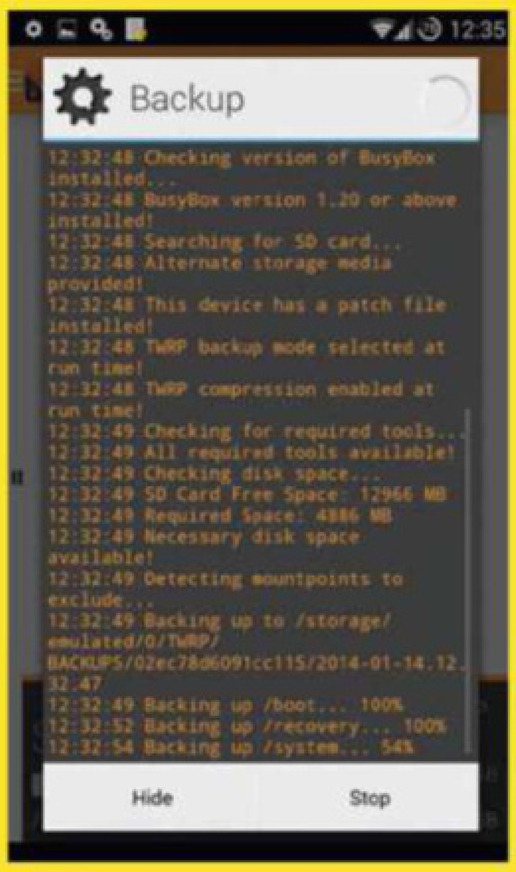
4 Enable cloud support

OBackup saves the backups to local storage but also supports uploading them to the cloud, including the Google Drive and Dropbox services. Pick your service of choice and enter your log-in information when prompted. Automatic backups will be enabled for your account.



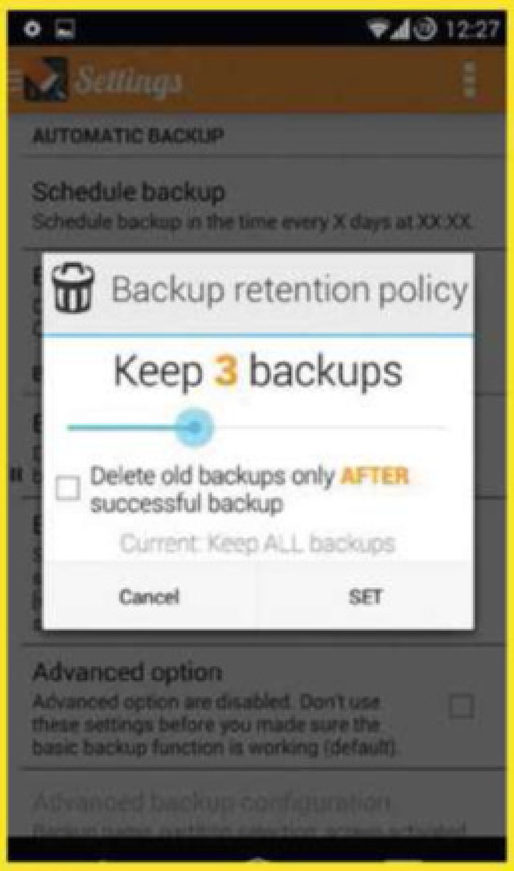
5 Install OnAndroid script

The final step before starting your backup is to install the OnAndroid script. You can do this from the app's main screen. The script will be downloaded (it is around 9MB) and a dialog box will pop up asking you to confirm the installation. You're now ready to create the backup.



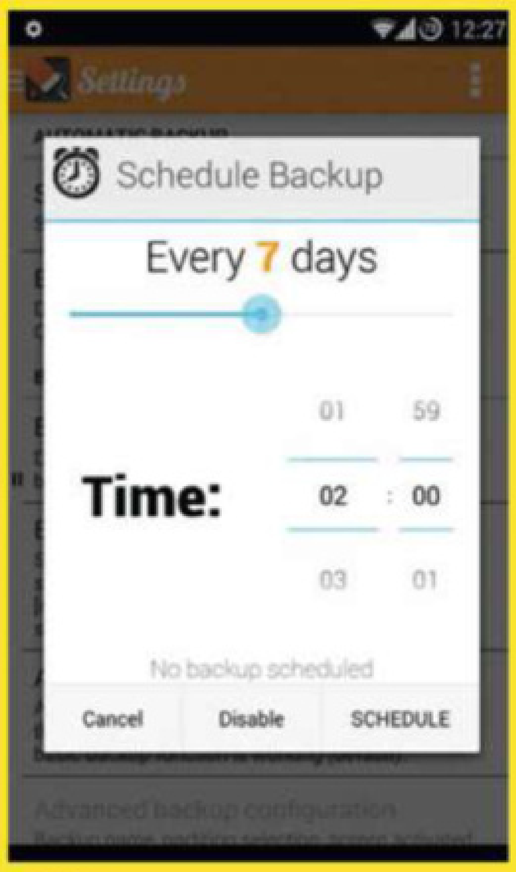
7 The cloud upload

When finished, the application will look to upload your backup to the cloud service you configured in step 4. Beware that full Nandroid backups will often be several GB large, so depending on the speed of your internet connection it may not be efficient to store them in the cloud.



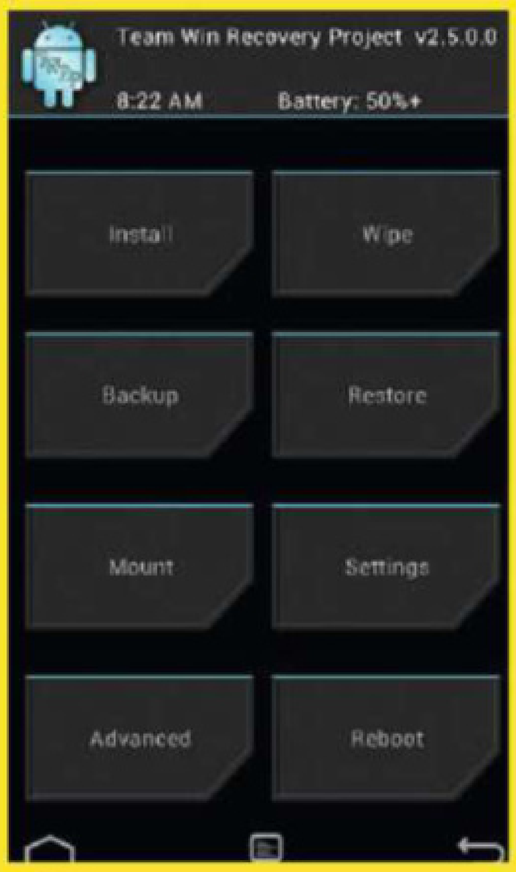
8 Create a schedule

To create backups on a schedule, open the navigation bar from the left and choose Settings. Pick the Schedule backup option to choose when and how often to back up. If you choose an overnight schedule, make sure you leave your phone on charge for when it happens.



9 Clear old backups

You should also set how many backups you want to keep. Depending on how frequently you flash ROMs you might not want to keep more than one or two as a precautionary measure. Given their size you may not have space for more than that anyway!



10 Restore a Nandroid

If you need to restore a Nandroid backup you can do so through the OBackup app if you can boot into Android and launch it. Otherwise you will be able to boot into Recovery and flash the most recent Nandroid manually. That will also restore OBackup in the process.

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Works with » Android 4.0.3 and up **Difficulty** » Intermediate

Completely hide root from apps

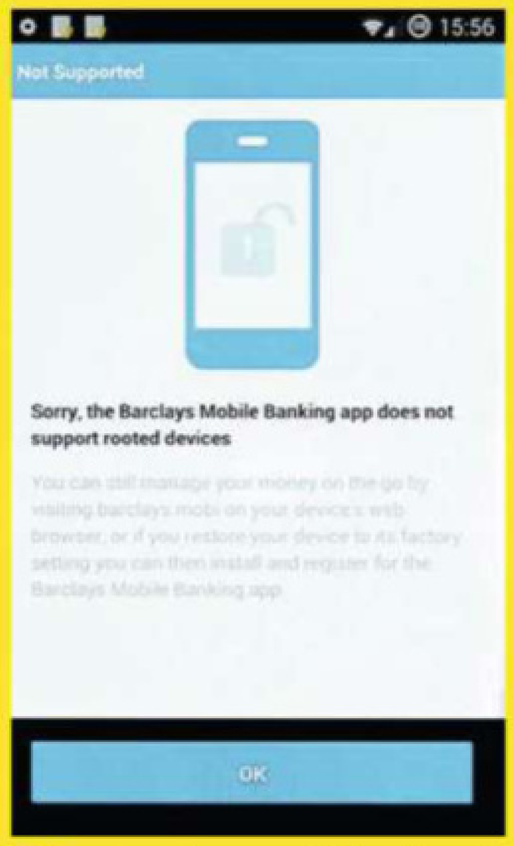


Hide root on a per-app basis with RootCloak Plus

Access banking and media streaming apps even when your device is rooted

Rooting is one of the first things we will do with a new device. It opens it up to a whole range of new features, tweaks and mods that are so useful we wouldn't really consider using an Android phone without it. Yet there are downsides. Chiefly, a select few apps will stop working. Because rooting can potentially make a device less secure (although in practice tends not to), as well as opening up all the files on the system for you to access, third-party apps that require security – either for your own benefit or for benefit of the service they are providing – often won't function on rooted devices. There are a few apps in the Play store that can hide root, but they don't work reliably with all apps. The SuperSU app that gets installed when you root your phone also enables you to deactivate root without actually unrooting, but that then breaks those apps you use that do need root. A new and more robust solution comes in the form of RootCloak Plus. This app, which is a little more hands-on in the way it is set up and configured, can hide root on an app-by-app basis, and gives you the best of both worlds. In this tutorial we'll show you how to set it up, and also give an example of how it works. Your device does, of course, need to be rooted before you begin.

"A new and more robust solution can hide root on an app-by-app basis"



1 Testing a blocked Android app

In our example we're using the Barclays Mobile app. If you launch it on a rooted device it pops up a screen saying that it won't work and you have no further option but to close it. RootCloak Plus should enable this to be bypassed and for the app to become functional.



6 Install RootClock Plus

Head back into the Google Play store and search for the app RootClock Plus. Despite the Plus label it is a free app. Make sure you have the version marked for Cydia, and double check the compatibility in the description before you continue. It works with most devices.

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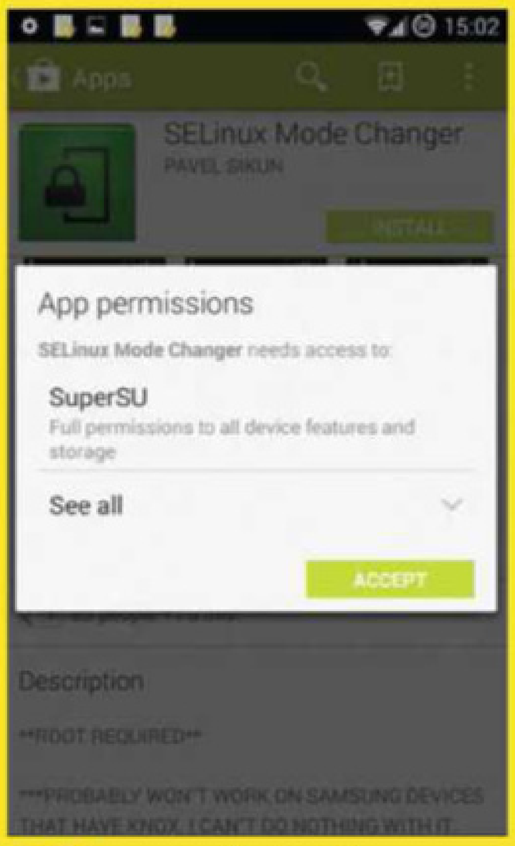
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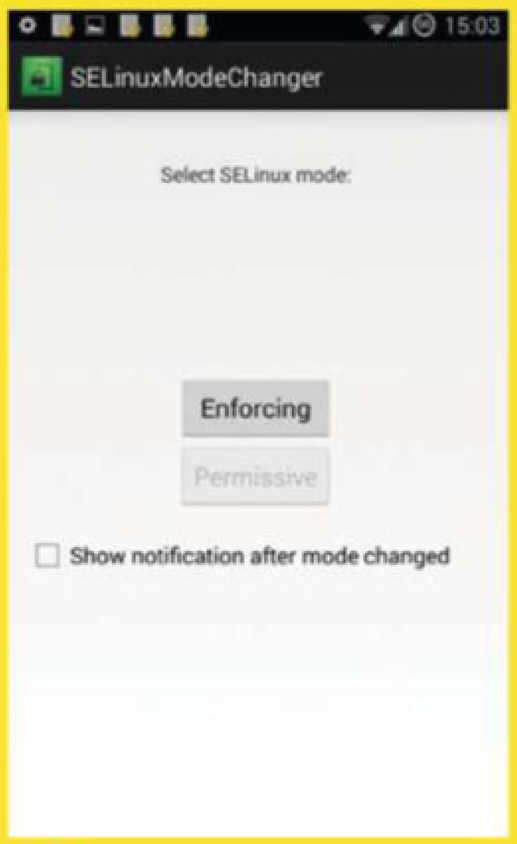
2 Install the Cydia Substrate

Begin by going to the Play store on your rooted device and downloading the app Cydia Substrate. If you're installing on a pre-Android 4.4 device then once it is installed you can jump ahead to step 5. If you're using KitKat you will need steps 3-4 before you can continue.



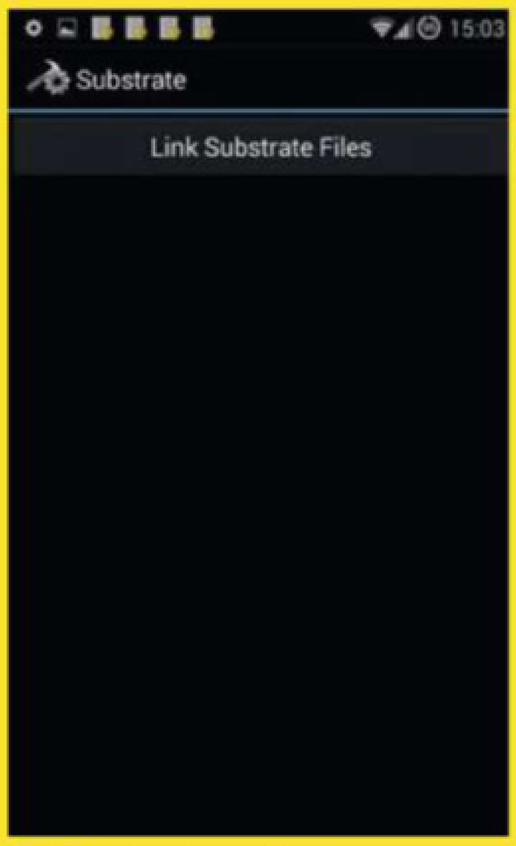
3 Install SELinux Mode Changer

If you're on KitKat stay in the Play store and search for SELinux Mode Changer. Install it – it'll take slightly longer than a normal app installation – then reboot your phone to complete it. Once done locate the app in your app drawer and launch it.



4 The Permissive option

There's not much to do in SELinux Mode Changer. Simply tap the single option on screen to change the mode to Permissive. This opens up extra permissions for certain functions. You won't use this app again, but leave it installed on your smartphone anyway.



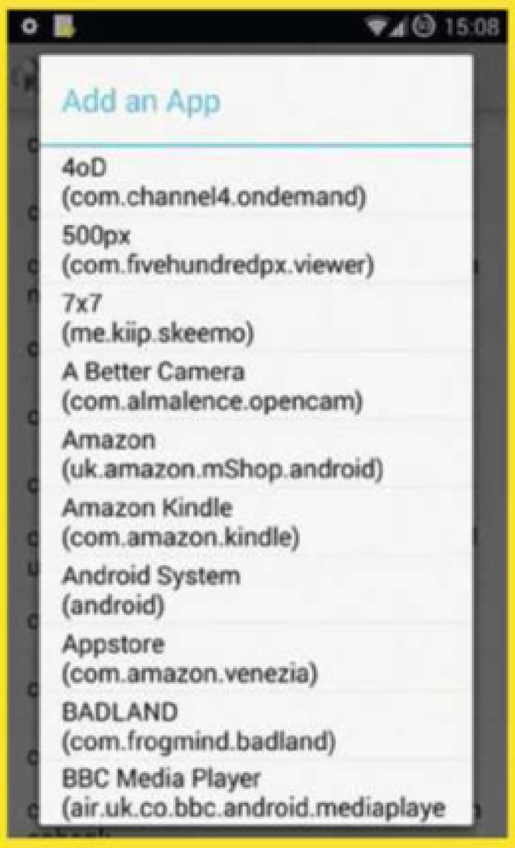
5 Link substrate files

Now whether you are on a KitKat or pre-KitKat device launch Cydia Substrate from your app drawer where it will be labelled simply as Substrate. Tap the option called Link Substrate files. You will then need to reboot your phone for the penultimate time.



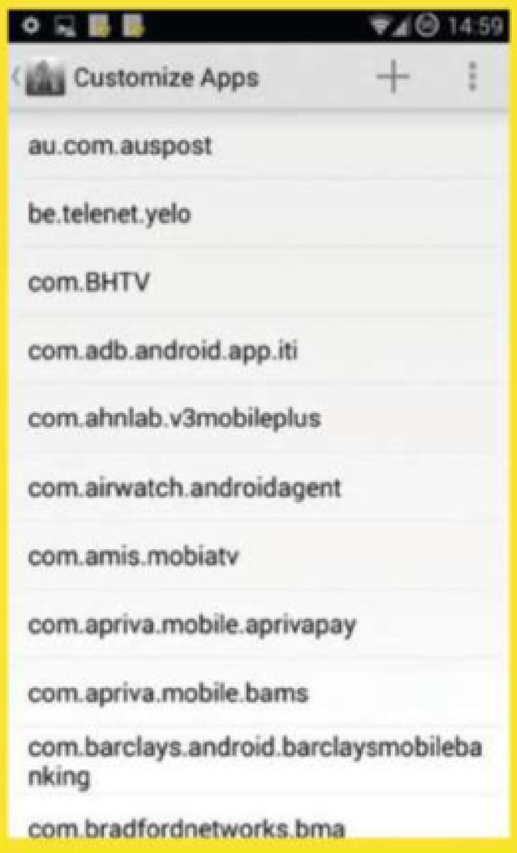
7 Reboot for the final time

Once that app is installed you will need to reboot for the final time, as the app will not function without it. You may be prompted to do so. With that done launch RootCloak Plus on your device to start choosing which apps you want to hide your root access from.



8 Launch and cloak your apps

Tap on the Add/Remove Apps option from the menu to take you to the Customize Apps screen. Some common apps are already pre-configured to be cloaked, but if you tap the '+' icon you can view all the apps installed on your device to add more.



9 Complete your cloaking setup

To remove an app from the list simply tap on it and you will be prompted to confirm that you want to do so. There's no harm in leaving apps in this list, unless you encounter any problems with them. Back out of the app and the setup is complete.



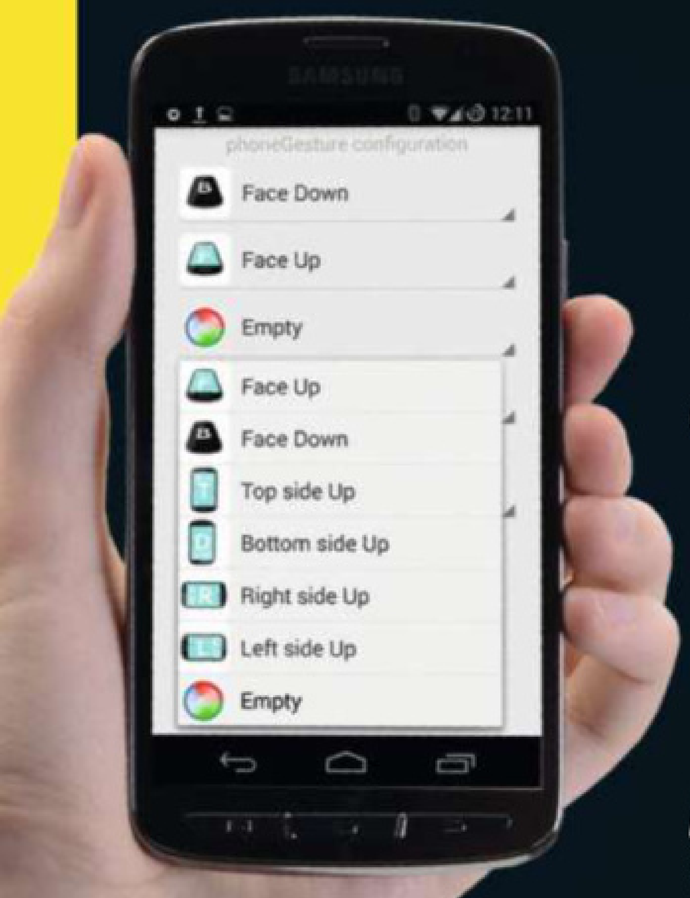
10 Check your blocked app

Now the big test: launch the app that would not function on a rooted device. As per our example the Barclays app now works perfectly, enabling us to log in as if we were on a non-rooted handset. To undo the changes revert all the settings from this tutorial.

Works with » Android 2.3 and up **Difficulty** » Beginner

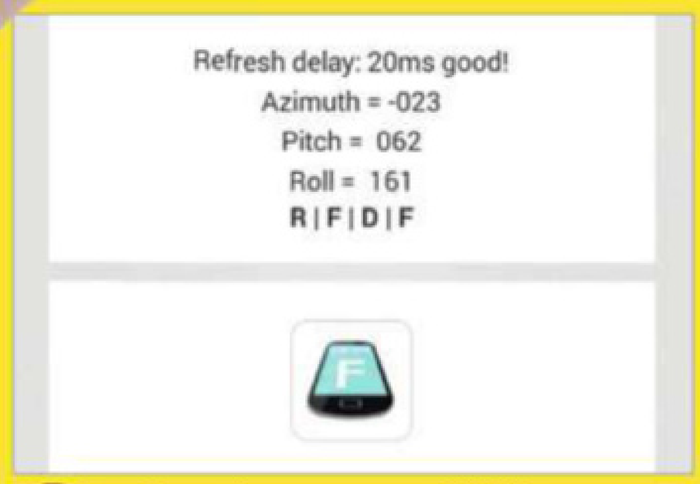
Use motion gestures with Magus 3D

With Magus 3D you control your phone without touching the screen



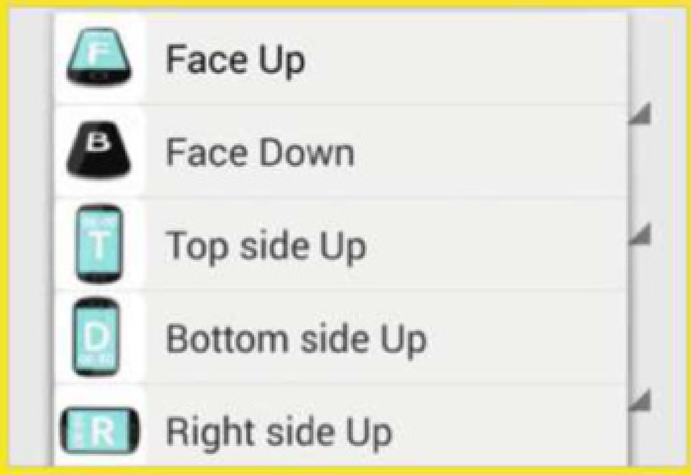
Control your phone without touching it!

Magus 3D is an innovative app that enables you to control your phone with nothing more than a flick of the wrist. Magus uses the sensors in the phone to detect how you are holding it, and enables you to perform certain tasks simply by moving your phone in a predefined manner. Although convoluted in some instances, it can also be very useful if you assign the right gestures to the right task. For example, you can launch the camera app by creating a gesture that mimics the photo-taking act of picking up your phone and rotating it, or silence the phone by flipping it over onto its front. Magus can become a powerful way to control your phone, and it doesn't require root to use.



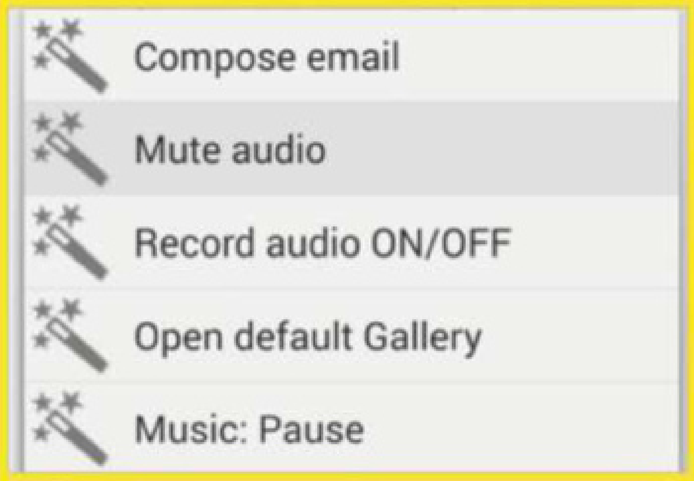
1 Check compatibility

Launch the application for the first time and click past the compatibility warning. A good way to check the app is working on your smartphone is to tap the Show Preview button. Swivel and rotate your phone and the phone icon will move accordingly.



2 Create a gesture

Now tap Add new gesture to begin creating your gesture. You can assign up to four movements of your phone to a specific task. The idea is to keep it simple enough to remember, but not so simple that you activate the task while the phone is in your pocket.



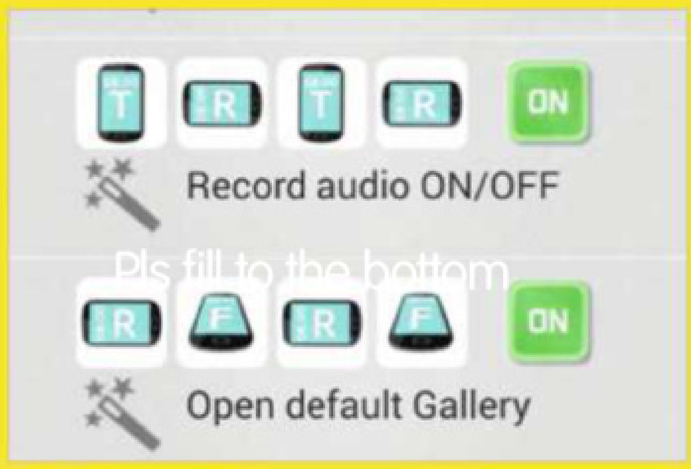
3 Your gesture options

The gestures you can use are a 360-degree rotation of the phone, plus tilting it back and placing it face down. You need to set a minimum of two gestures – select empty in the third and fourth boxes if you don't want to create a complex gesture.



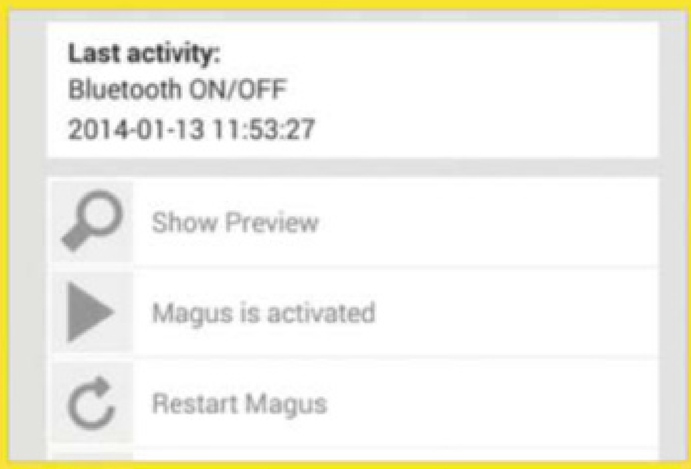
4 Assign a task

Now assign a task to the gesture you have created. Some actions will require Admin rights. In the Android OS go to Settings>Security>Device administrators and tick Magus to provide this permission. Return to Magus and tap Save and On on your new gesture.



5 Manage gestures

Return to the Magus home screen. Tapping Open gestures list will display all the running gestures, including the ones predefined for you within the app. You can edit them by tapping them, or turn them on or off by hitting the large green On icon.



6 Start the service

Finally activate Magus by tapping the Start Magus option. An icon will appear in your notification bar. Test out your gestures – when they're successful the phone will vibrate. The gestures should work when the screen is off, although this is dependent on compatibility.

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steemachine.com

15min wonder

Want your money back? You've got 15 mins to decide!

»0-5 minutes
Not much info shown in the default view

»5-10 minutes
Easy to wish Facebook friends happy birthday

»10-15 minutes
Nice contact and location options for new events

keep refund

Cal: Google Calendar & Exchange

Calendar apps don't have to look dull as this offering from the developers of acclaimed to-do app Any.do proves

Created by Any.do, the developer of the award-winning Any.do To-Do List & Task List app, Cal is designed to be more than just a standard calendar app. As well as automatically syncing with calendar services on your device – including Google, Exchange, Outlook, Yahoo, AOL and even iCloud – it can be linked to your Any.do tasks so they show up in the calendar, and to Facebook for friends' birthdays. The aim is to help you focus on the important things, whether related to work or home/social.

The interface itself is inspiring, featuring a different photo for each calendar day, based on any of nine themes. The slick design certainly makes a pleasant change from the dull styling of your average calendar app, while not detracting from the functionality.

The standard view shows the current week at the top with a large photo below. Just swipe right for the next week, or pull down to reveal the whole month. Events from linked calendars and Any.do aren't actually readable on the calendar – their presence is indicated by a dot. It's a shame that there's no indication of which days are particularly busy. Instead, you need to tap a day to reveal its events below. Tapping a calendar event makes it full-screen with options to see/add attendees (with photos if available), location, notes and reminders (location and time-based), plus repeat and delete. There are also handy options to email or message attendees and navigate to the location on a map. Adding a new event comes up with a similar range of options once you've entered the title, set the date/times and assigned it to a calendar. Tapping the location icon comes up with suggestions, such as coffee shops and restaurants in your area.

If you've linked Cal to your Facebook account, friends' birthdays will also appear in the calendar – tapping one takes you to a full-screen profile photo of the friend, with an option to post to their wall while staying in-app. It's slightly strange then that tapping an Any.do task takes you to that app instead – not that it's a major problem.

Tighter integration with the Any.do app is supposedly one of the extra features added to the new Android version of Cal – it's been around on iOS since last summer. Other bonuses include a landscape mode (sadly sans themed photos) and home screen widget – which makes it a lot easier to see what's coming up without having to open the app.

Despite the Facebook and Any.do link-up, whether Cal is likely to help you to achieve a better work/life balance is debatable. Nor does it offer a lot more functionality than Google Calendar, say. However, it does it all so well and with such panache that it's hard to resist.



The stylish event view shows attendee photos and map location



The default weekly view with a large random picture under it



Adding an event is easy; select a date and time at the bottom

» specification

Price **Free**

Designed for: Phone

Requires Android: 4.0

» verdict

Performance

Design

Value

A beautiful calendar app that does the job really well

» Like this? Try this! **BUSINESS CALENDAR** » Not so stylish, but very versatile with features including a custom multiple-day view.

AndrOpen Office

FIFA

Bills Reminder Lite

Solar: Weather

AndrOpen Office

A full desktop office suite goes mobile



Feature packed, but not quite up to scratch

While there are plenty of office apps around, none of them has quite the full functionality of a desktop suite. The ambitious aim of the developers of AndrOpen Office was to fork the Apache OpenOffice suite to Android. So here it is, complete with six built-in programs: Writer (word processor), Calc (spreadsheet), Impress (presentation), Draw (drawing), Math (equation editor) and Base (database). But can such a straight port of desktop software really work well on small touchscreens?

It all takes a while to get started. After downloading a fairly hefty app file and launching it, tapping one of the options (text file, spreadsheet etc) on the main menu results in a further download of resources. Then you have to wait for it to start up. After eventually getting to the Writer screen, we were greeted by a standard desktop-style menubar atop a zoomed-in blank page. Tapping the monitor icon brought up a panel enabling us to zoom out and navigate/scroll the page via various arrows – hardly ideal and taking up more screen space. While the keyboard input supports swiping for predictive text, it doesn't automatically insert spaces after each word.

Switching out to open a spreadsheet in Calc, we encountered an error and had to tap it several times. Again, the interface doesn't make it that easy to navigate documents on a small screen, but the comprehensive Excel-style spreadsheet functionality will prove a boon to some users who need the full functionality. Indeed, this is a theme repeated in the other modules – including, unusually, a full database application. So, while a clumsy interface and complete lack of cloud options mean this is unlikely to be your go-to mobile office suite, it could prove useful on occasion when you need that extra functionality.



The side panel and keyboard further restrict the view

» specification

Price **Free**

Designed for: Phone

Requires Android: 2.3

» verdict

Feature packed, but needs lots more work to make it remotely usable

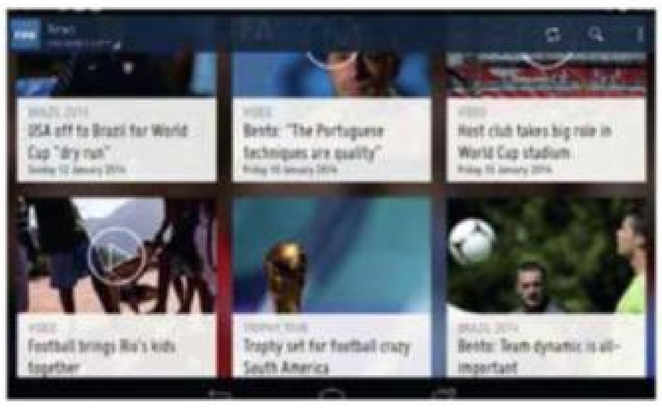
» Like this? Try this! **KINGSOFT OFFICE + PDF** » While not quite as feature-full, it is designed specifically for mobile use.

FIFA

The world of football in your hands

This official eponymous app from the world governing body for football claims to cover every kick in every game for 197 leagues around the globe, amounting to over a million minutes of action every week. Naturally, this includes coverage of both national teams and clubs – and women's football.

Viewed in landscape mode, the user interface is simple but effective, with a scrollable grid layout of the latest news stories, filterable by photos, videos etc – though strangely not by country/region. A pull-out side panel includes options for FIFA rankings and World Match Centre fixtures and results – where you can choose your favourite teams and competitions for more relevant information.



Get the latest news and results from around the world

» **Price** Free
» **Designed for** Phone and tablet
» **Requires Android** 2.3

Perhaps the most interesting section is the one covering this year's World Cup in Brazil, featuring details of the groups, match schedule, qualifying competition, and the host cities and stadiums. The app should prove valuable when the action kicks off on June 12.

» best free alternative **HTC FOOTBALLFEED** » Read the latest European football news and scores in a slick interface.

Bills Reminder Lite

Avoid red letters and late repayment charges

In these days of direct debits and online accounts, do most people still pay many bills in traditional fashion? Anyhow, Bills Reminder is here to help you keep on top of upcoming payments – along with any overdue ones, whose total is flashed up in a red panel. It's a bit laborious entering all the information to start with, but once you have your regular bills – plus any received payments – set up, it provides a handy list of upcoming ones. Numerous colour-coded categories can be customised.



» **Price** Free
» **Designed for** Phone and tablet
» **Requires Android** 2.2

Solar: Weather

Keeping the weather forecast simple

Whereas some weather apps cram in as much detail as possible, Solar opts for simplicity to avoid information overload. You get an instant feel for the current conditions via subtle background colour-coding. Swipe upwards for the 24-hour forecast or down for the three-day outlook. You can add extra locations, then view them all with a double-tap. Some users may crave a little extra detail, but you have to admire Solar's elegantly designed app.



» **Price** Free
» **Designed for** Phone
» **Requires Android** 2.3.3

StoreMaps

Dolphin Zero

Protect your privacy while surfing the web

With the recent headlines about wholesale snooping on our internet use, it's no wonder that more people are worried about privacy. You'll need more serious safeguards – such as Tor – to achieve online anonymity, but at least with the Dolphin Zero web browser you can protect your personal web-viewing habits (whatever they may be) from the prying eyes of anyone else using your device. It's basically a no-frills version of the standard Dolphin browser that promises to 'leave no trace' – when you exit your browsing session, it deletes all your data, including browsing history, form data, passwords, cookies and cached data/files. Dolphin also promises never to collect, store or share any of your information. To this end, its default search engine is the more privacy-focused DuckDuckGo, although you can still use Google Search if you prefer. Naturally, one downside is that you can't keep a handy list of bookmarks, so this is unlikely to be your go-to browser.



Shred your embarrassing web-viewing history with Dolphin Zero

» **Price** Free
» **Designed for** Phone
» **Requires Android** 2.2

Cross DJ

Has Android finally got itself a music-making app to show off?

Ever wondered why there are so few DJing apps available on Android compared to iOS? It seems it's down to the difficulties developers have with varied tech specs and limited audio outputs. Cross DJ, however, proves that these are no obstacles to creating an excellent DJing app on the platform. The latest version corrects a previous shortcoming by adding pre-cueing – you'll need a special cable to split the audio channels between headphones and speakers. Other additions include an automix function – ideal for casual DJs and parties – plus new bi-filter mapping and playlist editing. The only things really missing now are key detection and support for external controllers. One other downside is that, like similar DJ apps, it can't access Google Play Music tracks (even when pinned) – you need to have standard music files stored on the device.



Play loops with optional slip mode and set up to eight cue points

» **like this? try this!**
Mix.dj Android Free
Get inspiration by listening to thousands of mixes by other DJs.

Still, Cross DJ is an impressive app. The simple default view has few controls, making it less daunting for novices. Tap the turntables to load a couple of tracks from your library – sortable by BPM once analysed – and you're ready to mix. You can sync

"Cross DJ proves that these are no obstacles to creating an excellent DJing app on the platform"

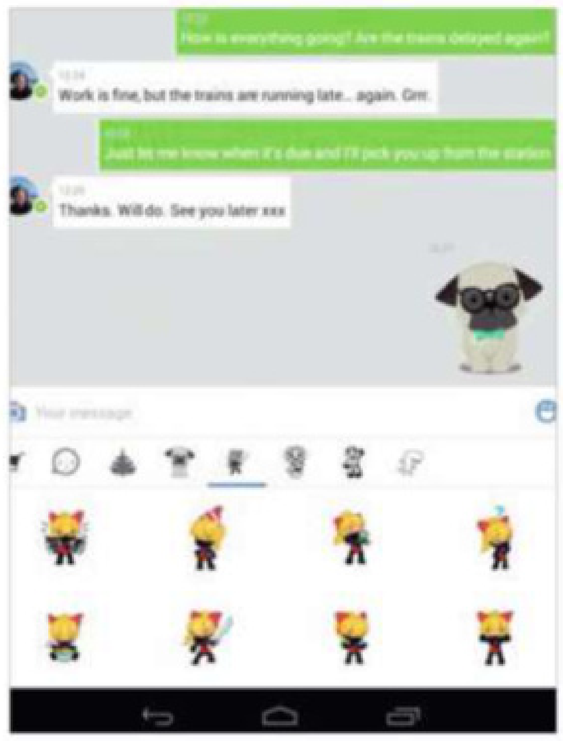
» **best free alternative** **EDJING** » It's very easy to use, although in-app purchases are needed to unlock some features.

Imo free video calls and text

IM client with redesigned user interface

Imo is one of the most popular instant messaging services around, offering text, voice and video chat. Handily, it also features support for other chat services: Facebook Chat, Google Talk, ICQ, AIM, Yahoo! Messenger and Steam – so you should be able to message most of your friends, no matter which IM client they prefer. And in this latest version of the app, they can all be found in a unified contact list. Other improvements include a brand-new UI with a cleaner look more in keeping with the current Android guidelines. This makes it easier to access chat actions and to quickly dismiss chats with a swipe. One welcome new feature is the inclusion of cartoon-image stickers. As before, the Broadcast feature enables you to meet new friends with similar interests.

» **Price** Free
» **Designed for** Phone
» **Requires Android** 4.0



Chats are now enlivened with colourful stickers

» **like this? try this!** **WHATSAPP MESSENGER** » An ultra-popular cross-platform messaging app, but it lacks voice/video calling.



EDITOR'S CHOICE ★★★★★ Android magazine

speeds by tapping a Sync button in time to the other song (or use Autosync if you're lazy) and fine-tune it by holding the middle of the deck. Then you can use the waveforms view to match those beats – it's a shame you can't zoom in for greater precision. As well as tri-band EQ, there's a loops section with slip option (so the main track carries on) and eight more cue points. The FX section is particularly good with a large variety of effects, all controllable via X/Y pad. It all adds up to a lot of fun for casual DJs, while offering a feasible Android solution for serious ones.

The main turntable view is simply laid out, with waveforms shown at the top

15min wonder

Want your money back? You've got 15 mins to decide!

»0-5 minutes
The simple layout makes it easy to get started

»5-10 minutes
Syncing and beat-matching are easy to do

»10-15 minutes
Playing with loops, cues and FX is great fun

keep refund

»specification

Price **£3.29/$4.99**

Designed for: Phone and tablet

Requires Android: 4.1

»verdict

Performance

Design

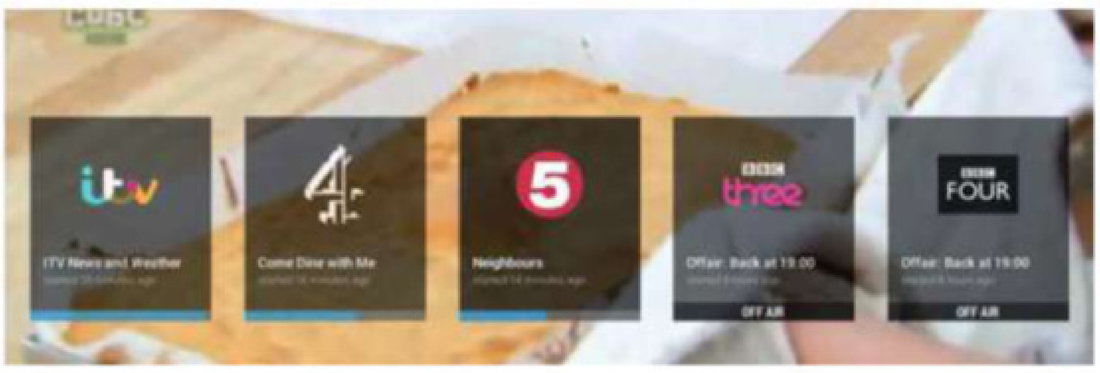
Value

With pre-cueing added, this is now a superb solution

TVPlayer

Watch a selection of live TV channels on your Android

Wouldn't it be great if we could view all our favourite TV channels in one app and quickly switch between them? Well, TVCatchup already offers this for several free-to-air UK channels – although it has recently lost some. So what advantages can the rival TVPlayer provide? Well, the range of channels isn't that different, although it does add a few extra music and Asian ones while dropping the likes of QVC; ten others (mainly music) were marked as 'coming soon'. The slick portrait-mode UI features a 'packs' screen that quickly enables you to list channels for different genres, such as music, kids and news. In the main channels view, you can only see what's currently showing on each one – a shame you can't swipe right to see what's up next, rather than having to tap. Tapping a show's preview picture starts it playing in landscape mode. Picture quality is good, there's a handy mute button and you can even bring up an on-screen view of what's on other channels – very convenient.



While watching a show, you can bring up a handy channels list

» **Price** Free
» **Designed for** Phone
» **Requires Android** 3.2

»like this? try this! TVCATCHUP » A landscape UI lets you watch a show while browsing the channel list.

quickhits

5 top apps for... ENTERTAINING THE KIDS



A novel way of getting young ones to bed



Nighty Night £1.99/$2.99



This charming app is ideal for a child's bedtime routine. They get to turn off the lights for various farm animals to send them to sleep, before being told it's their own bedtime!

Toca Hair Salon 2



£0.81/$0.99
Kids can really unleash their creativity – and sometimes spite – with this hair-styling application. They get to cut, wash, dry, shave, colour, curl and crimp the locks of one of the app's six characters.

Carnival of Animals Free



Aimed at children aged between two to six, this interactive storybook with mini-games uses animated animals to introduce youngsters to basic music theory.

Fraggle Friends Forever



£1.96/$2.99
Remember Jim Henson's Fraggle Rock TV show? Adults can get all nostalgic while the cute animated characters in this interactive story help their kids to learn.

Wombi Math £1.85/$2.29



An educational app aimed at making maths fun, it uses animations and sound effects to encourage kids to solve sums and other equations by pairing them with answers.

PriceSpy

Check and compare the price of any product

So, you're actually out shopping in a real bricks-and-mortar store for once and spot something that appears, or possibly claims, to be a bargain. But is it the real deal? It's particularly important to know the truth if it's a big-ticket item. PriceSpy enables you to either scan the product's barcode or do an in-app search to compare prices. It's hardly the only app to do this kind of thing, but it does offer some useful extra features to help you get the best deals around. These include customisable price alerts via notifications and email, a favourites list (with sharing and collaborative options), online prices of items in nearby shops, and reviews of items and retailers by PriceSpy members. It's a good companion app to the popular website, although it currently lacks the advanced search option of the latter.



Browse product categories, search manually or do a barcode scan

» **Price** Free
» **Designed for** Phone
» **Requires Android** 4.0.3

» like this? try this! **IDEALO »** A similar price comparison app with barcode scanning, alerts and sharing options.

Habit Streak Plan

EDITOR'S CHOICE ★★★★★ Android Magazine

Helping you to stick to those resolutions

If you're anything like us, you'll have broken your New Year's resolutions by now. If only there was something to help us stick to them. The idea behind Habit Streak – inspired by the technique used by the comedian Jerry Seinfeld – is that every day you report whether you've succeeded in your goal for the previous day. This way you are encouraged to build up chains (or streaks) of the desired behaviour, which you'll then be less likely to break as you go on.



See the streaks and stats for each goal

The app is extremely easy to use, reminding you (at a suitable time) to report on your progress in up to four goals – upgrade to the Pro version (£1.99/$2.99) to add more. As well as the crucial streak length for each habit, it shows your record score and the proportion of days you've succeeded. It's a simple but highly effective app.

» **Price** Free
» **Designed for** Phone and tablet
» **Requires Android** Varies

» like this? try this! **LIFT – DAILY MOTIVATION »** Be encouraged by the community to achieve a wide range of goals.

Wezzoo

Get crowdsourced weather from users around the globe

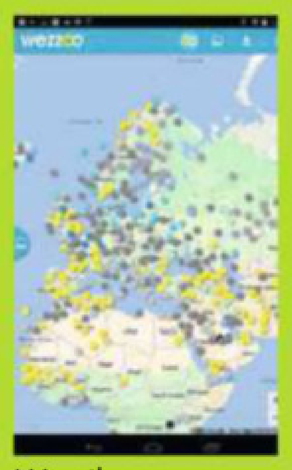
It's been raining weather apps for years, so do we really need another one? Well, at least Wezzoo is a bit different from most. It's like a social network for weather buffs, with users submitting their local observations and photos. Providing the information posted is accurate, this crowdsourcing should mean a very up-to-date picture of the weather situation – observations in the UK were a bit thin on the ground at the time of writing, but this will improve as the number of users grows. Real-time weather maps all around the world can be explored and you can pull out a panel showing the latest activity from users, whose photos you can like and comment on. Naturally, you can post your own observations, choosing from a range of conditions and adding an optional temperature reading and photo. It's a good concept, although the app crashed on us a few times.



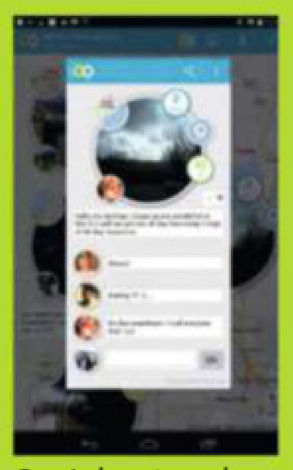
Latest activity
This pull-out panel shows the latest photo-accompanied observations from users around the globe. You can like and comment on these if you wish. Some may be in a foreign language, but the details and photos give a good idea of the conditions

"Real-time weather maps can be explored"

Get to know
Wezzoo lets you explore a world of weather and submit observations



Weather map
Scroll and zoom the map to see user observations from all around the world. Some areas have very sparse submissions, but things should improve as the popularity of Wezzoo gets bigger.


Social network
Some Wezzoo users are chattier than others. You can like and comment on any observation, perhaps if the weather is notable or they have taken a great photograph. It's a big part of the app.

Your weather
To add your own observation, choose a weather symbol, then add an optional temperature reading and photo. You can also opt to share it with Facebook friends and Twitter followers.

Slpy

Can you really get by on less sleep?

Do you really need eight hours of kip every night? Advocates of polyphasic sleep claim that it's more efficient to take regular naps – which also results in less overall time spent asleep. Whether this is good for you or not (some experts are concerned about side effects), sticking to such a schedule can be a challenge, which is where Slpy comes in. This alarm app lets you choose from five sleep cycles: Mono-phasic (single long sleep), Bi-phasic (a core sleep plus a daytime nap), Everyman (one shorter core sleep, plus three naps), Dymaxion (four equally spaced naps) and Uberman (six equally spaced naps). You then swipe down the screen to set the alarm times for that cycle, at automatic intervals – it can be tricky to position it for the precise time you want. Optional sleep time notifications also alert you when you need to take a nap. Both core sleep and nap durations are adjustable in the settings, so it's all highly configurable to your needs. There's also a facility to set multiple manual alarms for different days of the week.

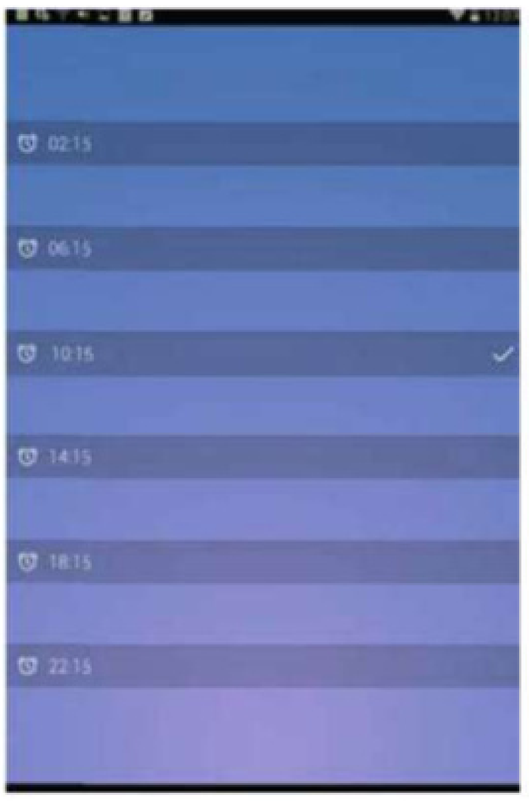
»like this? try this!

Sleep as Android
This sleep tracking tool has a clever alarm to wake you gently in the morning

"Sticking to such a schedule can be a challenge, which is where Slpy comes in"



Choose from five different sleep cycles



Swipe down to set the alarms

»specification

Price **Free**
Designed for: Phone
Requires Android: 2.3

»verdict

Taking regular naps can be tricky, but Slpy thankfully comes to the rescue

»like this? try this!

ALARM CLOCK PLUS » This highly configurable app lets you set an unlimited number of alarms.

Your observation

Once registered, tap this icon to submit your own observation for your location. Choose the (non-standard) weather symbol best representing the current conditions, then add an optional comment, photo and temperature reading before submitting it

Local weather

This user has added a dramatic photo of the sunrise at Whitley Bay four hours previously. The yellow weather symbol indicates sunny weather. There's no temperature reading given for this observation, nor has the user shared it via Facebook or Twitter

»like this? try this!

WeatherSignal
Another crowdsourced service, but this app has a more complex analysis.

Explore the map

You can explore the map of the entire world, zooming in and out to see recent weather observations made by others. They can be a bit thin on the ground in some parts of the world, but North America and western Europe seem to have decent coverage

»specification

Price **Free**
Designed for: Phone and tablet
Requires Android: 2.2

»verdict

Performance
Design
Value

An intriguing weather app turned social network

Playmarkers
Scan these QR codes for direct links to the Google Play Store

The Walk Fitness Tracker Game

News+ | Google News RSS Reader

Pugmarks Smart Browser

The Walk
Fitness Tracker Game

Stepping out into an audio adventure



The activity summary shows how long you've walked and the number of steps

Walking is a great exercise, but standard pedometers aren't very inspiring – unlike The Walk. Every step counts in this fitness tracker turned interactive audiobook. Near the start, a bomb explodes at Inverness railway station and you're given a package to save the world. To keep moving in the game, you need to walk in real life – every few minutes, you'll unlock another audio clip. There are also items to find on the scrolling map, plus a choice of routes at some points. With 51 episodes and 800 minutes of audio, it'll keep you going for hundreds of miles.

At first we thought our steps weren't registering, as the app only refreshes its stats every minute or so. Also, there are no alerts to tell you when you've unlocked a new audio clip.

Created by the developer of Zombies, Run!, The Walk is a more pedestrian affair. Anyone expecting the same sort of continuous audio immersion will be disappointed, but The Walk is compelling in its own way and the intriguing story keeps you going – despite some dodgy accents.



At forks you can choose which path to take – some are longer

» like this? try this!

Zombies, Run!
The sounds of groaning zombies should get you moving rather quickly!

» specification

Price **£2.59/$3.99**

Designed for: Phone

Requires Android: 4.0

» verdict

Performance

Design

Value

It has one or two flaws, but a compelling story keeps you on the go

» best free alternative **PEDOMETER** » A more standard pedometer app, although the social aspect may help to inspire.

News+ | Google News RSS Reader

EDITOR'S CHOICE Android

More than just another Google News reader

Created by the same developer as gReader, News+ has a very similar user interface but packs in many more features. These include multi-language support for Google News world regions (bar Japan), related news stories at the bottom of articles, plus a powerful search facility. More crucially, it supports downloadable extensions for other news services: currently Feedly, InoReader, BazQux, Tiny Tiny RSS, Feedbin, NewsBlur, SubReader, Reedah, CommaReader and Pocket. This makes News+ a one-stop shop for all your news needs, although you have to upgrade to the Premium version (£3.49/$4.99) to use more than one extension. Like gReader, the UI's look and feel is highly customisable so you can view articles just how you want.



Select a category and show headlines in list or grid view

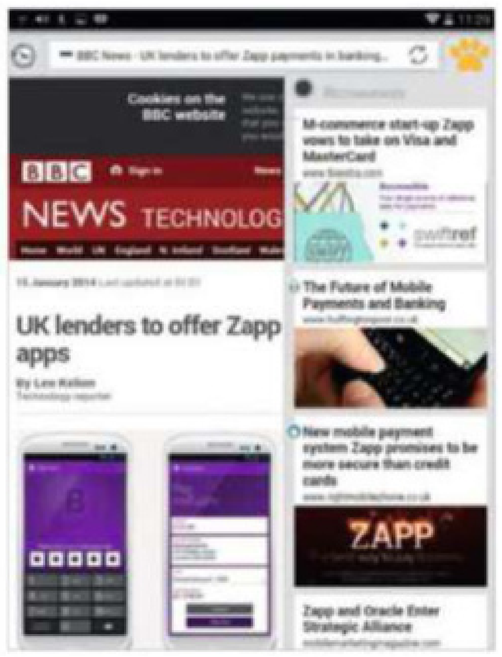
» **Price** Free
» **Designed for** Phone and tablet
» **Requires Android** 2.3

» like this? try this! **FLIPBOARD** » View your news stories within the flippable pages of a virtual magazine.

Pugmarks Smart Browser

A good way to discover new web articles

The Pugmarks browser aims to restore the spirit of online exploration by making smart suggestions for other content you shouldn't miss. If it deems the currently viewed page 'worthy', it analyses the content and makes recommendations partially based on your reading history and social media connections. These appear in a sidebar which can be expanded to fill the screen – just click on a story to be taken to it. Recommendations are also served up in the form of 'reading cards' when you tap the search/address bar. The suggestions it comes up with seem highly relevant most of the time, although it depends on the site visited whether it'll come up with anything. The browser itself is fairly basic with no bookmarking facility, but the concept is a good one and should result in a more interesting web experience.



The right-hand sidebar shows suggestions based on the current page

» **Price** Free
» **Designed for** Phone
» **Requires Android** 4.0

» like this? try this! **STUMBLEUPON** » A more social way to discover web content, based on sharing articles.

quickhits

Redirect File Organizer

Automatically sort your files into custom folders

The files stored on your device may well be in a mess – with multiple video or music folders and all manner of things in the downloads folder. Redirect File Organizer lets you set up redirects to automatically move files into a single folder. To help you get it right, you can blacklist/whitelist directories and if you do get it wrong, you can simply undo the redirect. The app can also be used to move files from internal storage to an SD card.



» **Price** Free
» **Designed for** Phone
» **Requires Android** 2.3

Locainder

Get notifications when you reach certain locations

There are several Android apps offering location-based reminders. Possible uses for this include alerting you when you reach your bus stop or train station, or reminding you to pick up the groceries on the way home from work. Locainder is particularly easy to use. Just tap the '+' button to set up a new alert, choose a title and description, tap a location on the map (or use the current one) and set the radius for it – anything up to 1km works. When you get within it, the alert will go off. It's simple, but highly useful.



» **Price** Free
» **Designed for** Phone
» **Requires** Varies

Cover Lock Screen

The lockscreen that learns what you need and when

Cover is smarter than most lockscreens that offer quick access to apps, since it actually learns what apps you use, and when and where – so the ones shown change depending on time and location. App icons can be slid partially for a sneak peek or all the way to launch them, while long-pressing a top corner brings up an app switching tray. Some users may miss the ability to pin their favourites, but you can opt to hide certain apps.



» **Price** Free
» **Designed for** Phone
» **Requires Android** 4.1

Soundrop

Listen with others and have a nice chat

Soundrop is a social music service where you can listen to music in virtual rooms with other users and chat to them. The Soundrop Android app works with both Spotify and Deezer music-streaming services. However, you can't sign into Spotify via Facebook and you need a premium account to effectively use either. Once you get it working, you can browse trends, themes and genres. Select a room and you'll see the Play Queue where you can vote for tracks, but not add your own.



» **Price** Free
» **Designed for** Phone
» **Requires Android** 4.0.3

Reddit Sync

A brand-new version of this Reddit reader

This popular Reddit client has just had a major face-lift. Rewritten from the ground up, it now features a card-based user interface, support for multiple users, sidebar Subreddit navigation and support for Multireddits (links combining multiple Subreddits). While it's very customisable, some may miss the ability to swipe between sections and menus, but the old version is still available to install as Reddit Sync Classic.

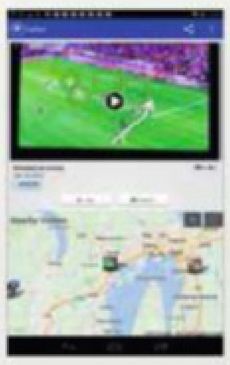


» **Price** Free
» **Designed for** Phone and tablet
» **Requires Android** Varies

Coach's Eye Free

Take your sporting performance to new levels

While the new version of this sports coaching app is free, it costs £30.34/$50 to upgrade and unlock all the premium features. Still, you can get an idea for how it works first. Use it to capture or import video of sporting action, then review the footage in slow motion and draw notes on it, compare side-by-side videos and add commentary. In addition, you can share footage with the rest of the community and explore tips.

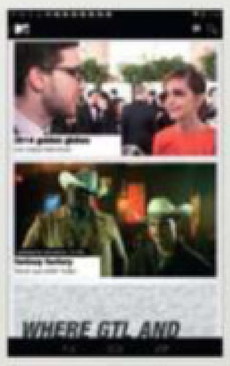


» **Price** Free
» **Designed for** Phone
» **Requires Android** 4.0.3

MTV

Watch your favourite shows and more

Only officially available in the USA, this app enables you to watch your favourite MTV shows – including full episodes if you sign in and your subscription TV provider supports the service. If not, you still can view Quickies: sneak peeks, bonus clips and some exclusive extras. A companion also enhances your live TV viewing as you take part in polls and quizzes, read behind-the-scenes facts, discover the songs used in shows and chat/share via social networks. Plus there's a handy TV guide for various MTV channels.

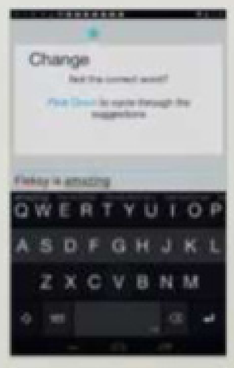


» **Price** Free
» **Designed for** Phone and tablet
» **Requires Android** 4.0

Fleksy Keyboard

You can even type on an invisible keyboard

Fleksy Keyboard takes up half the screen, but can be resized and even made invisible – if you can remember where the keys are. Swipes are used for shortcuts: right for a space/punctuation, down/up to cycle through suggested words, left to delete a word. Swiping up to add words to the dictionary is handy, but the suggestions are limited to the same length as the word typed, so useless if you miss a letter!



» **Price** Free
» **Designed for** Phone
» **Requires Android** 4.0

storemags

head to head

Which one of these ebook apps is perfect for reading on the go?

EBOOK READER vs ALDIKO BOOK READER





There are an abundance of ebook apps readily available on the Play store, with Ebook Reader and Aldiko being the two most popular. We've put the two head-to-head to find out which comes out on top

» specification

Price **Free**

Designed for: Phone and tablet

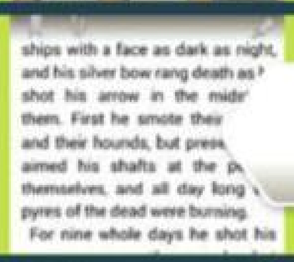
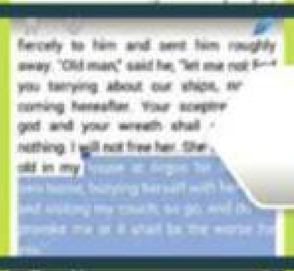
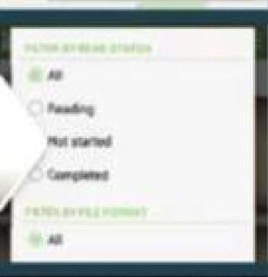
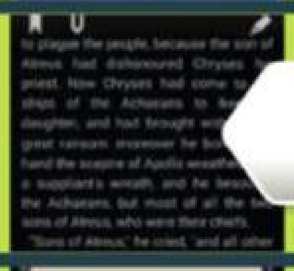
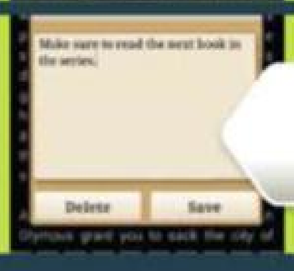
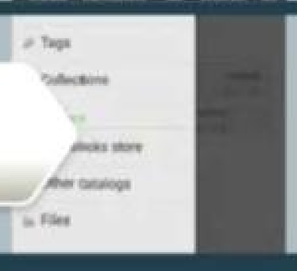
Requires Android: 1.6

» specification

Price **Free**

Designed for: Phone and tablet

Requires Android: 2.2

	Ebook Reader		Aldiko
BOOK SELECTION	WIN — Ebook Reader comes with a wide range of both fiction and non-fiction books from the start for you to explore and read at your leisure on your Android.		 — LOSE — Although you need to add your own books into Aldiko, it does include a great newsstand view where you can arrange your books alphabetically.
READING	LOSE — Unfortunately, there's only a few basic customisable reading options available in Ebook Reader for users to customise how they read their ebooks.		 — WIN — As well as changing fonts and word sizes, Aldiko also includes additional settings for users to take advantage of to perfect how they read ebooks within the app.
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GTA: San Andreas

Spin Safari

GTA: San Andreas

The third Android port is another classic GTA adventure, but can your device handle it?

San Andreas is the third Grand Theft Auto port to hit mobile devices, bringing with it the biggest story and arguably the best gameplay experience as well. San Andreas is a sprawling world and due to the graphical intensity of some locations, cut scenes and scenarios, you'll find that many older phones will struggle to keep up and lag is an occasional problem even on the most cutting-edge smartphones. Even though the touchscreen controls work well here, there's added support for external controllers which are by far the best way to play through a game like this.

As you'd expect with any Grand Theft Auto game, there's an engaging storyline to follow. Missions feel varied enough to keep things interesting and whether you're performing a bank heist, or doing a spot of car jacking, the game always feels fresh. The perfectionists among you will also want to explore the various side missions that are in abundance, even though they are on the short side and have little impact on the money you earn or the cars and other vehicles you can unlock in return.

One of the best things about the Grand Theft Auto series is that players can choose to completely disregard the main story and instead explore the world around them by any means they want. So whether it's simply beating people up on the street, creating epic crashes or outrunning the police it's all possible on this mobile port. However, the game's lag issues do come into play when you have numerous objects on the screen at any single time.

If your device can handle it, then GTA San Andreas is one of the best games to hit Google Play in years. With a mammoth story and the usual GTA madness, this is one all avid Android gamers should be enjoying.

» **Price** £4.99/$6.99
» **Designed for** Phone and tablet
» **Requires Android** 3.0



Meet new characters to move the story along


There's a range of weapons to unlock

Spin Safari

Take a walk on the wild side of the Play store

Offering a unique mix of puzzle and adventure, Spin Safari is a relatively simple animal-matching game. Each level requires you to match a certain amount of animals by stopping a glowing arrow in certain spots, but the uniqueness of the game comes from the fact that your objective for each level can change at any point so you're always kept on your toes. With each correct pairing you earn more points, which can in turn be used for extra unlockables throughout the game.



Match animals to score points

Although the first few levels are a fairly mundane affair, when you start exploring some of the power-ups available to you in the latter levels, the game comes into its own.

We did love the sumptuous and detailed graphics on show – this is an entertaining game you can't fail to like the look of.

The simplicity of it may put some people off it, but with 100 levels to master, Spin Safari offers hours and hours of gameplay if you choose to download it for free from the Google Play store.

» **Price** Free
» **Designed for** Phone
» **Requires Android** 2.3

what we've been playing

Sonic Dash
Free
Even though we still prefer the traditional Sonic format, Dash offers a unique take on the ring collecting hedgehog franchise. The later levels are tough to complete.

Compulsive
Free
Puzzle games don't get more frustrating than Compulsive, which offers a modern twist on the vintage colour-matching genre but doesn't compromise on difficulty.

Recommend a game...
» twitter
@lgrobot

The Cave | Batman Dash | Paper Samurai

The Cave

Descend into the mysterious depths of The Cave



The Cave is a spooky adventure game, aimed at leaving players puzzled for hours on end. Before venturing into the cave, you first need to put together a small band of explorers. There's seven to choose from and each has their own traits and abilities that you'll be able to make use of the deeper you get into the cave. Some puzzles are deceptively difficult and require a certain skill to complete, so make sure you choose from the start.

Despite the name, The Cave actually takes place across a big universe and you'll face puzzles within everything from a nuclear reactor to an amusement park. Puzzles get tricky quickly and you'll soon realise the importance of picking the correct team of explorers. By far The Cave's best feature is the gorgeous animation and soundtrack that adds to the sinister atmosphere throughout and doesn't hinder the superb gameplay at all. If you like your games hard and can tolerate a few jumpy moments, then this delivers in abundance and is certainly worth a download.



Use acquired skills to tackle tricky puzzles

» **Price** £3.06/$4.99
» **Designed for** Phone
» **Requires Android** 2.3



Time jumps correctly to traverse rooftops

Batman Dash

Batman gets a retro overhaul



The Google Play store has seen a recent rise in the amount of endless running games, with Batman Dash being the latest to hit the market. The first thing you'll notice about the game is the retro look of it, which works well throughout, but the Batman animation could have done with being a bit more defined.

The object of Batman Dash is simple enough, traverse the rooftops of Gotham for as long as possible without falling to your death. As you get further you'll collect coins that can be used to unlock further items, but they are few and far between, meaning you'll need to play for hours to unlock more extravagant extras. Batman Dash is a rather simple take on the endless runner genre and there are much better alternatives to check out.

» **Price** Free
» **Designed for** Phone
» **Requires Android** 2.3.3

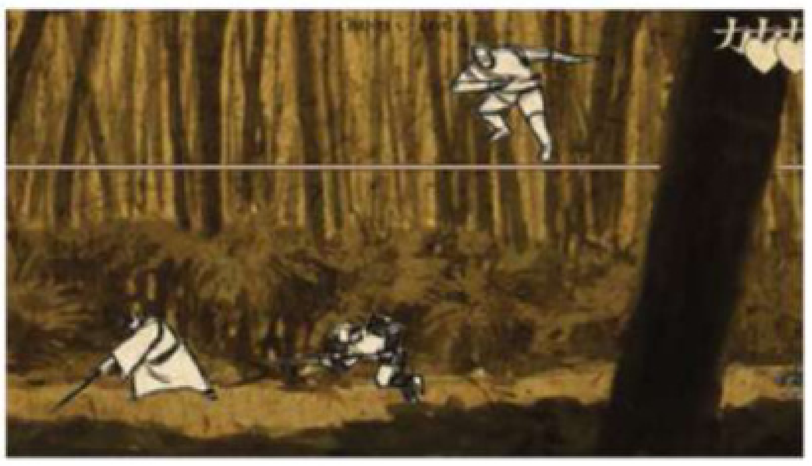
Paper Samurai

Defend your village one swipe at a time



Playing as Daimyo, it's your job to defend your village from enemies looking to take an ancient scroll located in the village. Instead of manually moving Daimyo, you tilt your phone to move his sword around and slice enemies up. The lack of control you have is a small annoyance, but the tilt controls are responsive. There's a wide selection of enemies, and each is vulnerable to different attacks. Figuring out how to cut down your enemies is really what makes the game fun. The added bonus of boss battles keep things fresh. Beyond all that, the impressive paper-styled graphics work really well, so much so that we'd love to see more games look like this. Paper Samurai has its flaws, but its gameplay is engaging enough to warrant a download.

» **Price** £0.61/£0.99
» **Designed for** Phone and tablet
» **Requires Android** 2.1



Tilt your device to move Daimyo

quickhits



The Sheepening £1.10/$1.81

Sheep herding in a UFO seems like a mad idea, but this game does just that. It's packed full of jokes to keep you laughing as you help a shepherd's flock.



Golf Championship Free

Despite the average animation, Golf Championship is a superb golf sim game that offers an array of tournaments to compete in and cups to play for.

Faif £0.60/$0.99

With both puzzle and RPG elements, Faif is an unusual game to say the least. Fight against enemies by matching battle icons before your opponent does. Complicated at the start, but easy enough to master.

Colossatron £0.58/$0.99

Taking on the role of a giant snake, it's your job to smash through cities and create plenty of destruction as you move through the game. You can take the app to the next level by exploring some of the many power-ups available.

Soccer Manager Free

Although not as detailed as the ever-popular Football Manager, Soccer Manager provides a quick fix for those wanting to dip their feet into football management. Unlike Football Manager, this game has a big multiplayer element to it.

NeonPlat Extreme £0.69/$0.99

This retro-inspired arcade game requires you to stay alive for as long as possible by throwing balls at bad guys. Remarkably simple to play and great fun.

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Group test

Seven-inch tablets

How does the Kindle Fire HDX stack up against other top compact Android tablets?



Google Nexus 7
Offering Android in its purest form, the Nexus is seen as the ultimate Android tablet. It is the only device in our test to be running the Android 4.4 OS

Kurio 7S
A tablet aimed at families, the Kurio is packed with software and an easy-to-use UI. It comes with parental controls, as well as full access to the Play store

storemags.com

Ever since the original Nexus 7 revolutionised the tablet market back in 2012, seven-inch Android tablets have been following a clear trend: better and better specs at lower and lower prices. Today you wouldn't expect to pay more than £200 for a seven-inch Android tablet, a fact that actually makes the current-generation Nexus 7 one of the most expensive around. Its competition comes from all corners: established names like Amazon, whose Kindle Fire HDX continues the strategy of selling high-quality hardware at a cheap price and making up the difference through on-device content sales, to lesser known manufacturers like Kurio, whose devices are readily found on the high street. In this group test we will look at design and build quality to features and raw performance. Do the skins help or hinder usability? Are price and value connected? Read on to find out.



Asus MeMO Pad HD 7

HD display and powerful specs in a very affordable package. It has similar features to the 2012 Nexus 7, and comes from the same manufacturer

Amazon Kindle Fire HDX

The third-generation Kindle tablet is powered by Android but has its own unique UI. Has none of the Google services installed, and is instead built round the Amazon ecosystem

Storemags

Google Nexus 7

information

» Price **£199**
» More information
play.google.com/store/devices

technical specs

- » Operating system ..... **Android 4.4**
- » Processor ..... **Snapdragon S4 Pro 1.5GHz quad-core**
- » Memory ..... **2GB RAM**
- » Dimensions ..... **200 x 114 x 8.7mm**
- » Weight **290g**
- » Display size ..... **Seven-inch**
- » Display resolution ..... **1920 x 1200 pixels**
- » Expansion ..... **None**
- » Camera ..... **5-MP rear, 1.2-MP front-facing**

»head-to-head

Display

The 1080p screen is outstanding. Superbly crisp and sharp it is ideal for reading text. The brightness might have been a little higher on maximum, but we found the auto brightness setting to be well judged.

Performance

Although no longer quite a cutting-edge processor, the quad-core Snapdragon can handle even the most high-end of games. With 2GB of RAM on board as well you'll be hard pushed to hit the limits of this tablet.

Design

Very understated. The Nexus 7 is a glossy black rectangle, slim and light, that lets the screen and the content do the talking. A few design quirks, like the flat power button and odd front camera positioning.

Software

The Nexus 7 runs Android 4.4 and we'd expect it to run 4.5 or 5.0 when they come out. This is Android in its purest form and provides you with a blank canvas you can use to tailor the tablet to your needs.

»Verdict

A few quibbles here and there, but the Nexus 7 still ranks among the very best tablets on the market



HD display
The screen is full HD. It is sharp and crisp and a noticeable improvement over the 720p options

Vanilla Android
There are no extras in the software, just pure Android. As a result it is fast and extremely usable

Wide bezel
The bezels are wider at the ends than down the sides. It looks a little odd but makes perfect sense when the device is in your hand

No vibration
There's no vibration motor so you cannot be alerted to notifications or get haptic feedback in apps. The notification LED is very subtle

OS updates
The big selling point of the Nexus 7 is that it gets Android updates in a timely fashion. This is the only one of our group running KitKat

Google Nexus 7

The Nexus 7 provides the Android experience in all its glory, but does it still set the standard for Android tablets?

The Nexus 7 is the tablet that helped establish the upper limit for Android tablets. Anything over £200 is now deemed expensive, and anything under by even a significant margin can no longer get away with passing off poor build quality and specs under the excuse of an entry-level tag.

The Nexus 7 is the oldest tablet in our group test, but has not dated at all and still has a pleasing design and performance as solid as any of our other test devices. Furthermore it is the only one to be running KitKat at the time of testing, although interestingly it is a somewhat different version of KitKat to the one you'd see on a Nexus 5.

There's no Google Experience Launcher with built-in Google Now, and even some of the visual flourishes like the translucent status and navigation bars are absent. Nonetheless the tablet has benefited from the Android 4.4 update, especially in the new OS's reduced memory requirements. 2GB of RAM was always plenty on the Nexus to begin with but now with an extra couple of hundred megabytes available you'll be hard pushed to ever use it all.

The Nexus 7 also has a glorious screen, with resolution beating all but the Fire HDX. We were pretty happy with the displays on the other tablets, but when you put the 720p options alongside the 1080p options the difference is extremely noticeable. With its large bezels either end of the screen, the Nexus 7 feels as though it is primarily built to be used in landscape mode, although is comfortable enough upright for reading and similar tasks.

The tablet feels great in the hand. It's slim and light and the grippy, soft touch rear case makes it secure. Our hands did tend to obscure the speakers that are mounted on the back edges of the device; they were suitably loud otherwise.

The five-megapixel camera on the back was just about average in quality and unlikely to get much use. The front-facing camera was suitable for video chat but rather awkwardly placed off to the side.

Colourful back
The MeMO Pad is available in a choice of coloured back plates. They make a refreshing change to the all-black approach that dominates the tablet world

Expansion
You can add a memory card to expand upon the 16GB of storage, of which around 12GB is available to the user. The card slots in on the left-hand side



Battery
Battery life is impressive, and should comfortably get you through several days of use without needing a charge

Front and rear cameras
There are cameras on both front and back, but neither is much fun to use. The front one is fine for video chat; the rear for emergency snaps only

Asus MeMO Pad HD 7

A low-cost tablet with decent specs and 720p display. Can it live with its more expensive rivals?

The MeMO Pad is built by Asus, just as the Nexus 7 is, but it is a very different tablet. That device has Google's guiding hands all over it; this one doesn't and it shows. That it runs a not-quite-up-to-date Android 4.2 is not a problem. The problem is that the OS has been skinned in a not altogether tasteful way. Initially it seems almost stock, but swipe down from the top of the screen and you'll find a badly skinned notification pane that ditches Android's tasteful monochrome style in favour of at least three different shades of blue and a load of gaudy icons.

The navigation bar has also had its icons redesigned, with an additional one shoehorned in on the left that enables you to open a series of mini apps on top of the one you're currently using. We've seen the idea elsewhere – Sony is another company that does it – and we like it. A good selection of apps are supported, including a calculator and video player, and other than it taking longer to load it works well.

The MeMO Pad is packed with extra apps that can be disabled but not uninstalled. You could download most of them, or better equivalents, from the Play store if you wanted them – the Kindle app, a to-do list tool, a social messaging app and so on. Among the more unique of the extras is Asus Splendid, an app that enables you to change the colour temperature of the screen. It's interesting to play with for a while, but we do wonder how many people would actually care about the display enough to use it properly.

The lack of refinement in the software is reflected in the hardware too. It feels like a more plastic version of the original Nexus 7. It's thick, and although it is actually lighter than the Kindle Fire, it feels heavier. The back cover is a hard glossy plastic, available in multiple colours. It looks okay but does scuff up easily. The screen and performance were fine, although with budget-minded specs it doesn't stand up to being pushed too hard.

Group test
Asus MeMO Pad HD 7

information
» Price **£129**
» More information
www.asus.com

technical specs
» Operating system..... **Android 4.2**
» Processor..... **Mediatek 1.2GHz quad-core**
» Memory..... **1GB RAM**
» Dimensions..... **196.8 x 120.6 x 10.8mm**
» Weight..... **302g**
» Display size..... **Seven-inch**
» Display resolution..... **1280 x 800 pixels**
» Expansion..... **micro SD up to 32GB**
» Camera..... **5-MP rear, 1.2-MP front-facing**

»head-to-head
Display
Put the 720p display of the MeMO Pad next to one of the 1080p displays in our test and the difference is plain to see. On its own, however, it is sharp and bright and the pixels are not discernible.

Performance
The Mediatek processor is not know as being one to offer great performance, and with 1GB of RAM on board you'll start to hit its limits quickly. For browsing, email and video, it is more than satisfactory.

Design
Designed to be used in portrait mode. The tablet is very plasticky, with a glossy back that shows off its low price tag. The screen also picks up fingerprints very easily. Feels heavier when compared to its rivals.

Software
A strangely skinned version of Android 4.2. Not many changes have been made, but almost all of them are worse than if Asus has stuck to the stock look. Only the mini-apps feature adds real value.

»Verdict
The build quality has a cheap feel to it, and the software lacks refinement, but for basic use it performs adequately

Kurio 7S

information

» Price **£124.99**
» More information
www.kurioworld.com

technical specs

» Operating system	**Android 4.2**
» Processor	**Dual-core 1GHz**
» Memory	**1GB RAM**
» Dimensions	**200 x 127 x 12.4mm**
» Weight	**394g (without case)**
» Display size	**Seven-inch**
» Display resolution	**1024 x 600 pixels**
» Expansion	**micro SD**
» Camera	**2.1-MP rear, 0.3-MP front-facing**

»head-to-head

Display

The 1024 x 600 pixel display is low res even for a seven-inch tablet, and is of a 16:9 ratio rather than the standard 16:10, making it quite a wide device. The grippy texture on the screen was quite annoying.

Performance

Not aimed at heavy users. It handled the pre-installed apps well, and can do things like web browsing and video viewing quite comfortably too. There are some surprisingly good expansion options.

Design

It's large and very heavy but is quite robustly built, giving away its intended use as a family tablet. This is a device you won't feel too delicate about using and will be happy to put it through its paces.

Software

An odd mix of family friendliness and stock Jelly Bean. The parental controls are great, but the pre-installed apps are overkill. Some of the more advanced Android features seem out of place here.

»Verdict

A very good option for families with clumsy children, but despite some nice additions, it's limited in what it can do

Big bezels

The areas around the edge of the screen are not discreet. This isn't just about being a family tablet, but being budget too

Widescreen

The display is the more irregular 16:9 ratio rather than 16:10 as you would normally see on an Android tablet



Family controls

You're encouraged to create user accounts when you first turn on the tablet. The controls are actually better than the standard Android ones

Plenty of apps

As a Google certified device you get the full Play store as well as countless extras that come pre-installed on the tablet

Great expansion

We were pleasantly surprised to discover HDMI and USB ports on the right hand side of the device

Kurio 7S

A tablet aimed at families that now comes with full access to the Play store

The Kurio 7S is a tablet designed for families with children, and is designed accordingly. There's a rubber bumper in the box should you need it, but the tablet on its own feels pretty tough. It's heavy, has a huge bezel that makes the screen look smaller than it is, is thick and has a bright green soft touch plastic back. It's plastic all the way, but is impressively robust.

The software is pretty locked down but the hardware has surprising scope for expansion, with HDMI, micro SD and USB ports all sat on the right-hand side. The power button is located on the top-right corner of the tablet – it is designed to be used almost exclusively in landscape mode – and there are stereo speakers either side too. The screen is a low-res 1024 x 600 pixels and though it pales in comparison to the higher res offerings in our test it is still better than you might expect. Our main complaint with the screen was its grippiness. It simply wasn't possible to swipe a finger along the screen smoothly.

The tablet runs Android 4.2.2. It launched without Play store access, but an update during testing introduced this and made the device altogether more functional. The look of the tablet interface is unusual, being pure stock Android with a family-friendly setup process and apps. The tablet encourages you to create accounts for each user when you first turn it on, and the parental controls are excellent. There are loads of kid-focused apps pre-installed, ranging from Angry Birds to more obscure offerings, but they can all be uninstalled if you don't want them. It may take some time. And amid the hand-holding UI you still have the hardcore Android features too.

Performance is only so-so. While the processor was not laggy it wasn't fast either. The 1GB of RAM was enough for most tasks you would perform on the device. High end gaming is out of the question, but for casual games, browsing and video viewing it serves its purpose.



Amazon Kindle Fire HDX

The third-gen Kindle tablet comes with Amazon's own version of Android, and none of the usual Google apps…

The Kindle Fire HDX is a seven-inch tablet with a tiny footprint. With a narrow bezel it feels squarer than many other tablets while maintaining the 16:10 ratio of the screen. In short, it feels rather like an iPad mini, albeit without the metal build. The back is soft-touch plastic, adorned by a large Amazon logo in landscape orientation. The casing has an angular pattern that slopes away towards the edges, making the tablet feel even thinner than it is. The power and volume buttons are located on these slopping edges. They sit in the general vicinity of your thumbs when holding the tablet in landscape mode, and are almost impossible to find in portrait mode. It's strange, then, that some apps actually force you to use it in portrait mode.

The Kindle Fire HDX boots into Amazon's own version of Android. You would be hard pressed to find many traces of Android within the UI, such is Amazon's complete overhaul of how the system works. The home screen features a large Recent Items widget, built around your Amazon content purchases, along with a selection of your favourite apps. Along the top are tabs that enable you to quickly navigate to your games, apps, books, music, videos and so on. The content stores are built directly into the UI, as is cloud support. So you open the Movies, for example, and can see your local content, cloud-stored content and tap the Store icon to buy some new stuff. Needless to say, all your activity is tied to your Amazon account, just as other devices are tied to Google.

The notifications pane from Android remains in place, as well as a few more obscure features, but for the most part this is an Amazon tablet. The replacement apps are pretty good; the keyboard works well, the Silk web browser is faster than Chrome. We just can't say it does things better than Android. It's a great content consumption device, if you're a heavy Amazon user.

Amazon Kindle Fire HDX

information

» Price **£199**
» More information
www.amazon.co.uk

technical specs

» Operating system	**Fire OS 3.0 (based on Android 4.2.2)**
» Processor	**Quad-core 2.2GHz**
» Memory	**2GB RAM**
» Dimensions	**185 x 127 x 9mm**
» Weight	**311g**
» Display size	**Seven-inch**
» Display resolution	**1920 x 1200**
» Expansion	**None**
» Camera	**Front-facing HD**

»head-to-head

Display
The full HD display is fantastic. While we would have liked it to go a tad brighter we have no complaints about its clarity. With the decent quality speakers in support it makes for a great portable video device.

Performance
Performance was pretty much flawless, and entirely lag free. That said the interface is optimised for reading and watching so you probably would not push it in ways you would a Nexus.

Design
The Kindle Fire HDX feels impossibly small, making it seem even more portable than its rivals. The tapered back is unusual, and the positioning of the power and volume controls is not ideal.

Software
Android 4.2 is under the hood. Far, far under the hood. Amazon's UI is built around getting you using Amazon content, and their app store pales in comparison to the Play store. It's not bad, but it's not better.

»Verdict

A very small, high-quality tablet that is perfect for content consumption but less so for anything else



The winner...
Nexus 7

GROUP TEST WINNER
Android magazine

When it was launched last year the Nexus 7 set a new standard for what to expect from an Android tablet, and it is still the standard. The Kindle Fire HDX comes closest to matching its winning combination of slim build and outstanding performance. Amazon's tablet really is remarkably small and feels great in the hand, although the strange positioning of the hardware buttons was something we never came to terms with. We also cannot claim to be fans of the Fire OS, Amazon's forked version of Android. That it is so heavily tied into Amazon's store is great in some respects – CDs you've bought from the company in the past will appear automatically in your cloud music library, for example – but it does feel like you're not using the tablet to its fullest extent.

Conversely you could quite happily never use the Play store for anything other than downloading free apps and you could still have a very rich tablet experience. So the Nexus 7 wins, although it should be noted that the MeMO Pad, while obviously compromised in some ways to meet its even lower price point, is a perfectly serviceable tablet that would suit first timers especially.

	Google Nexus 7	Asus MeMO Pad HD 7	Kurio 7S	Amazon Kindle Fire HDX
OS	Android 4.4	Android 4.2	Android 4.2	Fire 3.0 (based on Android 4.2.2)
Processor	Snapdragon S4 Pro 1.5GHz quad-core	Mediatek 1.2GHz quad-core	Dual-core 1.5GHz	Quad-core 2.2GHz
Memory	2GB RAM, 8/16GB storage	1GB RAM, 8/16GB storage	1GB RAM, 4GB storage	2GB RAM, 32GB storage
Dimensions	200 x 114 x 8.7mm	196.8 x 120.6 x 10.8mm	200 x 127 x 12.4mm	185 x 127 x 9mm
Weight	290g	302g	394g	311g
Display Size	Seven-inch	Seven-inch	Seven-inch	Seven-inch
Display Resolution	1920 x 1200 pixels	1280 x 800 pixels	1024 x 600 pixels	1920 x 1200 pixels
Expansion	None	micro SD up to 32GB	micro SD	None
Camera	5-MP rear, 1.2-MP front-facing	5-MP rear, 1.2-MP front-facing	2.1-MP rear, 0.3-MP front-facing	Front-facing HD
Overall score				

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Samsung Galaxy Note 10.1 2014

Samsung brings the Note 10.1 up to date. You know the features by now, but does it warrant the premium price?



Samsung revolutionised tablet computing with its Galaxy Note bringing stylus-based input to the smartphone and tablet worlds. The stylus concept has been emulated by some, but for many Samsung still reign supreme. The 10.1-inch tablet-sized, stylus-receptive Note launched in 2012, and this latest edition, with its rather ungainly name of Samsung Galaxy Note 10.1 2014 edition updates the unit.

You do pay a premium for the stylus-based features with the Wi-Fi-only version we reviewed starting at £450 and with 4G support added starting at £599. These are prices for the 16GB version. Up that to 32GB and prices rise. It's expensive not just compared to Android tablets, but to those on other platforms too.

There are a lot of changes to this latest Galaxy Note both outside and inside. There's been a reduction in overall size thanks in no small part to a smaller screen bezel. At just 7.9mm thick this is a delightful tablet to hold, however it is no featherweight at 540g.

No doubt responding to murmurings about the plastic build of such an expensive product, Samsung has given the back of the latest Note tablet a faux leather finish similar to that seen in its most recent phablet version of the Note range. It feels quite nice under the fingers and the fake stitching around the edges looks good at first glance, but after a few seconds you'll realise that it is plastic. The silver edging is also plastic. Samsung hasn't really moved away from lower grade build materials, and it's not something you'd really expect at such a high-end price point.

While many tablet bezels are clear of buttons, Samsung has opted for a physical home button and two touch sensitive ones for back and menu. The buttons are entirely in keeping with Samsung's

good for... **Drawing**
Tablet-based art doesn't get more sophisticated than this on Android

StoreMags.com

Samsung Galaxy Note 10.1 2014

information

Price **From £450**

» More information
www.samsung.com/uk

> "Samsung has certainly brought the 10.1-inch Note on in this new edition and there are lots of really nice features"

current smartphone design ethos, though we felt we didn't really need them. Their positions are only suited for use when you hold the tablet in landscape mode, too.

On each short edge of the Galaxy Note 10.1 2014 you'll find a speaker that delivers good quality sound to a high volume. The speakers are well positioned for using the tablet in widescreen mode which is what you'll most likely do when gaming or watching video. The top edge has an infrared port. There's a micro SD card slot too. Notably absent is HDMI, though screen mirroring is supported if you have compatible devices.

The screen is fantastic. Its 2560 x 1600 pixels make video look sharp, and while it isn't quite as vibrant as it might be, it is impressive. Samsung continues its practice of enabling you to set up colour depth and tone for different uses. In the Settings area you'll find three presets for Dynamic, Standard and Movie settings. It would have been nice to be able to edit these and save presents, but a fourth mode, Adapt, changes the settings for some other activities such as ebook reading.

The stylus lives in a housing on the edge of the chassis. When you eject it a little menu pops up offering access to some of the pen-based apps that are on board. If the menu disappears, you just hover the nib over the screen and press the stylus's side button and up it pops again. There's a lot to like here, with drawing apps and handwriting recognition particularly impressive. Handily you can rest your palm on the screen when writing or drawing without the contact being recognised as a screen tap. It's clever stuff.

In addition there are plenty of other tweaks to Android 4.3. You can open two apps side by side and you access them by dragging a menu of apps out from the side of the screen. There's My Magazine for viewing news feeds in a printed magazine-style layout, and Smart Stay, a mainstay of Samsung's these days, keeps the screen on while you are looking at it. Naturally a lot of the Samsung apps do double up on the stock Android ones, so the amount of use you get from them may depend on whether you own a Samsung phone as well, or whether you don't want your content to be tied into a specific manufacturer.

It is odd that you get different processors in different versions of this tablet, but the Wi-Fi only version which we reviewed has an eight-core processor, with four lower consumption cores designed to help save battery life. Performance was fast and smooth throughout.

Samsung has certainly brought the 10.1-inch Note on in this new edition and there are lots of really nice features. Still, this is an expensive tablet and you are going to have to really want that pen input to stump up the cash.



Dual view
You can view two apps side by side, and can also pop up a number of apps in a small window

Physical buttons
The physical button is more useful in landscape mode than portrait. It isn't really needed in either case, though, to be honest

Pen-tastic
There are lots of apps designed to take advantage of the stylus that sits in a dock on the casing

Taking notes
The handwriting recognition onboard the Galaxy Note is superb

High-end uses
View two applications side by side for more complex tasks

Watch video
The high-res screen can be optimised for watching movies

Battery life

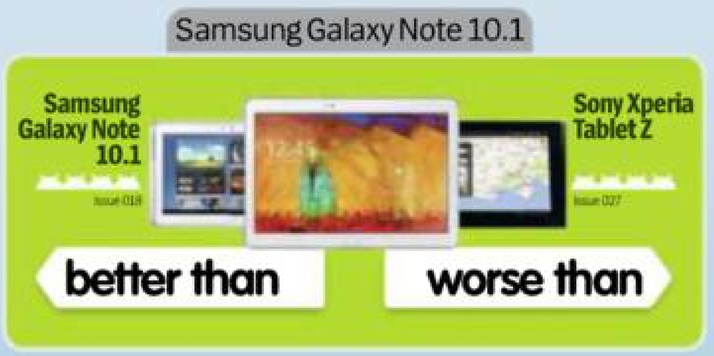


Longer than the average battery life and should get you through a couple of days of solid use



technical specs

Operating system	**Android 4.3**
Processor	**Octa-core processor 1.9GHz quad-core plus 1.3GHz quad-core**
Memory	**16GB storage**
Dimensions	**243.1 x 171.4 x 7.9mm**
Weight	**540g**
Display size	**10.1-inch**
Display resolution	**2560 x 1600 pixels**
Expansion slot	**micro SD, USB**



Performance
Speedy and smooth with an excellent screen and good battery

Design
Thin and quite sturdy, but all plastic. The S Pen is well designed

Features
Brimming with goodies. The S Pen has been implemented well

Value for money
A unique offering thanks to the pen, but it is expensive

» Verdict

An impressive but not quite perfect tablet. You'll need to use the pen a lot to justify the premium price tag

Lenovo Yoga Tablet 8

Lenovo take a forward-thinking approach to tablet design, but does the rest of the device match the build quality?



Tablet makers don't often try very hard to make their tablets look like something other than rectangular slabs. That's odd, really, since doing so could give them the edge over the competition. Sony has taken a stab at doing something a bit different with its wedge-shaped Tablet S, and now Lenovo has also moved away from the norm with its Yoga tablet design. This comes in eight and ten-inch versions and we've taken a look at the smaller size.

One of the long edges is a tube that's grippable when you are working in portrait screen mode. It is weighted as it contains the battery. The power switch is at one end, headphones slot at the other. To the left and right are speakers that bash out a reasonable volume and quality of sound. It's comfortable to hold, and simply filling it with a large battery is a good enough reason for it to exist. But there's more…

The tube doubles up as a stand when the Yoga Tablet 8 is on your desk, sitting the screen at a slight angle, which makes it a bit easier to see than the screens of tablets that lie flat. It's handy for touch typing on the screen, which you can do at decent speeds thanks to the elevated angle.

Much more interestingly, you can flip out a stand. This can be used in two ways. It can raise the angle slightly more than you get from the tube section, in which case typing out text is even more comfortable as is sitting back on the train to watch a movie. Or you can flip the Yoga onto its side and stand the screen almost upright, at which point it makes a very good picture frame, clock or second screen on your desk showing whatever website interests you. And you can angle the stand to get the screen just how you like it.

The black and silver look is run of the mill but the silver edging to the frame is quite classy. The stand is metal, which adds a feel of quality to the build, the rest of which is plastic. The overall look, we must note, is not dissimilar to that of Apple's wireless keyboard.

There are two versions of the Yoga Tablet 8 with a 3G option priced at £229.99 and a non-3G option at £199.99. The SIM slot is protected beneath the

good for...

ebooks

Long battery life makes the Yoga a good ereader choice

StoreMags.com

Lenovo Yoga Tablet 8

information

Price **From £199.99**

» More information **www.lenovo.com**



"The rethinking of tablet design is both welcome and successful; it's just a shame that the device overall has been saddled with such average specs"

stand, and that's also where you will find a micro SD card slot to boost the built-in 16GB. Putting those two expansion options in this location helps keep the sides of the tablet tidy and enables them to taper to an end considerably thinner than the 7.3mm thickness quoted in the specs. We measured the thin end at 4mm.

This is all very good stuff, but apart from good battery life the specifications fall more towards the average side than the design might lead you to suspect – or want. There's a quad-core 1.2GHz processor supported by 1GB of RAM keeping things going. It felt a bit sluggish at times and if you want to play demanding games you might want to look elsewhere. The screen's 1,280 x 800 pixels are below par – take a look at the Nexus 7, which shares the non-3G pricing for better screen specs.

Android 4.2 is behind the times. It's not heavily skinned, but Lenovo has added a few apps and dispensed with the apps drawer, instead putting apps directly onto your home screens.

Lenovo has also added a neat feature called the Smart Side Bar, which is a settings and shortcuts area you call up with a sweep and that even lets you make different screen settings for the different stand use modes. It's a shame you can't call it up from within apps, only from a home screen.

It is also weird that the front camera is on a short edge rather than the long one nearest the stand. This tablet is perfect for Skype when resting on its stand in wide screen mode, but the camera position is not helpful.

Lenovo potentially has a really good tablet on its hands here. The rethinking of tablet design is both welcome and successful; it's just a shame that the device overall has been saddled with such average specs. A few choice tweaks for the next version, however, and it could be a stunner.

Desk companion
The stand is useful as a second screen if you are at your desk

Movies and music
Good speakers on the front of the chassis enhance the media experience

Travelling
The battery life could easily see you through a weekend away without a recharge

Battery life



Better-than-usual battery life thanks to the innovative tablet design



technical specs

- Operating system: **Android 4.2**
- Processor: **1.2GHz quad-core**
- Memory: **1GB RAM, 16GB storage**
- Dimensions: **213 x 144 x 7.3mm**
- Weight: **401g**
- Display size: **Eight-inch**
- Display resolution: **1,280 x 800 pixels**
- Expansion slot: **micro SD**



Performance
Sluggish at times, the specs don't match the innovation in design

Design
A rare new idea in tablet form factors. The built-in stand really works

Features
Some neat features but we'd have liked more in terms of raw specs

Value for money
Attractive price puts it in line with other seven and eight-inch devices

» Verdict

The brilliant design helps usability and battery life. We'd have liked a bit more power in the hardware though

Archos 101 XS 2

The Archos 101 XS 2 is a productivity-oriented tablet that comes bundled with a useful extra in the shape of a coverboard



Wide and narrow
The screen is a little wider and narrower than usual. This is great for watching videos and fits lots of text onto the screen if you're using it for reading

Stereo sound
Left and right of the screen are two speakers delivering stereo sound. Despite their size and prominence, the audio quality is not really any better than most other tablets



USB host
With the right (optional) dongle, you can attach a hard drive via the micro USB slot

Tablets don't usually come with accessories, but Archos has decided it will provide an oft-purchased accessory with its 101 XS 2 tab – a keyboard. It makes for an interesting bundle that's augmented by the inclusion of Office Suite Pro, an app that lets you create Word, Excel and PowerPoint documents. So, if you want to get into document creation, email and other text production with the minimum of fuss, this tablet might appeal.

It isn't the tidiest of tablet designs, though. The decision to put two speaker grilles left and right of the screen all the way down its short edges adds a fair bit to the width of this tablet and that won't appeal to everyone. And the music playback through those speakers isn't as good as you might hope given their size either. It is loud, sure, but also rather treble heavy.

The white plastic material used for much of the chassis is not the most classy, either, and in a crowded market the look of a tablet really does matter. There's also a bit of a weight factor here. On its own the Archos 101 XS 2 weighs 636g. The keyboard adds another 200g to that. It's approaching the weight of a small laptop, and undermines one of the key benefits of a tablet in the first place.

The coverboard shares the large silver metallic looking centrepiece to its back that is found on the tablet, so that when the two are together they look in sync even though the plate is larger on the coverboard than the tablet.

The keyboard itself is fairly well thought out. A row of tablet-specific shortcuts sits above the number row, keys feel good under the fingers if a bit small and the fixing mechanism is sturdy. There's a pass through power charger so you can keep the tablet battery topped up while you type. It all works neatly enough, though as ever with magnetic coverboards it can slide off when the tablet is in your bag, so you're still going to need a carry case of some kind.

If you are worried about storage capacity for documents (and indeed for other media like tunes

good for...
Typing
There's a bundled coverboard that is ideal for being productive

storemags.com

Archos 101 XS 2

information

Price **£250**

» More information
www.archos.com

Battery life



About average on the whole. You'll likely drain the battery fast with media use



technical specs

- Operating system: **Android 4.2**
- Processor: **1.6GHz quad-core**
- Memory: **2GB RAM, 16GB storage**
- Dimensions: **273 x 169 x 10.1mm**
- Weight: **636g tablet, 200g coverboard**
- Display size: **10.1-inch**
- Display resolution: **1,280 x 800 pixels**
- Expansion slot: **micro SD, USB**



Performance

Solid and swift, while the keyboard is nicely designed for work-based tasks

Design

Overly wide and rather too plasticy. Keyboard integrates well, however

Features

Good keyboard and Archos media apps. Expansion options are also very useful

Value for money

It's a crowded price range, though there are few productivity-oriented tablets

»Verdict

This is a nice concept, but the build needs attention. With fewer cost-cutting measures, Archos could be onto a winner

"Equipped with a nippy 1.6GHz quad-core processor and a healthy 2GB of RAM, this helps it cope well with fairly demanding tasks"

and movies), then there are several options open to you. The tablet has 16GB of onboard storage of which 13.98GB is free if you accept all the free software downloads that are offered when you first switch on. These include Office Suite Pro and also some other bits and pieces. It would be nice to accept some and reject others, but it's all or nothing – though you can delete apps you really don't want later.

There's a micro SD card slot for hotswapping data. There's also cloud storage, of course. And there's USB host support so you can use a USB stick or indeed an entire hard drive through the micro USB slot. You could also add a mouse if you wanted to turn the device into a fully fledged mini tablet. You'll need to buy an adaptor dongle to convert the micro USB port into a full-sized one. The other useful slot on the tablet is HDMI so you can output your movies or presentations to a larger display, and in addition there is, of course, a headset jack.

The 10.1-inch screen, with its 1,280 x 800 pixels, sounds standard enough, but it is wider and narrower than usual. That makes it good for movie watching and in tall mode you can see an awful lot of text at once – nice if you are browsing webpages you like to read, although the added width doesn't really lend itself to portrait use.

Archos has equipped the 101 XS 2 with a nippy 1.6GHz quad-core processor and a healthy 2GB of RAM, and this helps it cope well with fairly demanding tasks. You get the usual Archos suite of media apps too, which support streaming.

The cameras, however, are not so impressive. With just two megapixels both front and back you aren't going to be able to take particularly high-quality photos. The front-facing one is good enough for video chat, but we can't see the rear one getting much use at all.

For a price around £250 this tablet is an interesting offer. It feels like a well thought-out product, but is hobbled to an extent by the need to hit an affordable price point. So while the bundled coverboard and the screen aspect ratio might appeal to some, the tablet is heavy, and general build, sound quality and camera are all below par.



Cover me
You get a coverboard with this tablet so you are ready to start typing right away. It does add considerable bulk to the tablet on the whole, though

Archos streaming apps
As well as the media apps in Android you get some from Archos for playback and streaming

Media streaming
The tablet fits into the Archos streaming ecosystem and is a good media all-rounder

Expansion
USB host support expands the range of storage options to make it a powerful device

Gaming
Well, why not! If you want to kick back the tab is powerful enough to handle the latest games

Mad Catz M.O.J.O.

More of us than ever are turning away from traditional consoles to gaming on our phones and tablets. Can M.O.J.O. blend the two perfectly?

Experience
Mad Catz has been making controllers for consoles for many years and its experience shows in the C.T.R.L.R. The Bluetooth smart device is powered by AAA batteries and feels high quality

Expansion
The M.O.J.O. has two USB ports, one of which is USB 2.0 and the other is USB 3.0. One port is occupied by the C.T.R.L.R dongle, which also enables use of the controller with a PC. USB 3.0 gives fast connection to a hard disk for storage

Connection
5GHz Wi-Fi and Ethernet support means that you shouldn't have trouble getting content onto the M.O.J.O. at a decent speed. This sets it apart from a lot of similar devices and is valuable with congested 2.4GHz networks



Tough start
Only experts need apply. The M.O.J.O. is very much a first-generation product that is best used by those experienced in making the most of Android. An improved out-of-box experience is a must for future software updates

Power
At the heart of the M.O.J.O. beats a 1.8GHz Tegra 4 processor with its 4+1 architecture. The GPU has 72 custom cores, so excellent graphics performance is no surprise

Storage
micro SD expansion is available if the 16GB of onboard storage isn't sufficient. Media files or today's large games quickly consume storage, so the ability to drop in a 64GB micro SD is invaluable

Traditionally, if you were looking for a quality gaming experience you'd turn to a games console. PlayStation or Xbox for the more seasoned player, Wii for fun family game time, perhaps a PC for the hardcore gamer. Almost certainly a Nintendo handheld if you wanted to take your gaming mobile.

Times are changing however, and increasingly powerful mobile devices are drawing people away from conventional gaming experiences and high-quality, low-cost games on mobiles could spell trouble for the gaming incumbents. Players are moving towards having their game time at their convenience on devices that they already own and carry with them.

Mad Catz is looking to create a blend of the two concepts with hardware that's strikingly similar to your phone or tablet but played on the big screen and with a conventional controller. An interesting concept and certainly the idea of paying a few pounds per game instead of £50+ is appealing, but does it work?

The M.O.J.O. has the internals of a high-end Android device with a skew towards the powerful graphics processing needed for gaming. At its heart is a Nvidia Tegra 4 processor complemented by 2GB RAM, 16GB ROM (expandable using micro SD), dual-band Wi-Fi and a couple of things you won't find on your phone – an Ethernet port and dual, full-size USB ports (1 x USB 2.0 and 1 x 3.0). Connection to your TV comes via a full-size HDMI port and there's a 3.5mm socket for your headphones. The design of the machine itself is understated but attractive – a compact wedge shape with a blue LED on the front. You don't turn the M.O.J.O. off, so that LED is always illuminated.

If the hardware is reassuringly familiar, then the same can definitely be said about the software. Packing Android 4.2.2 with a KitKat upgrade imminent, the M.O.J.O. offers an almost completely stock version of Google Android. This brings exactly the same user experience that you would find on a Google Nexus phone or tablet. With no touchscreen, navigation is carried out using the 'C.T.R.L.R.' (Mad Catz love their full stops), a Bluetooth Smart-ready device specifically designed for minimal latency in play.

The controller itself has a number of modes – Game Smart mode, which acts like a conventional gaming controller, Mouse mode where a pointer appears on screen that is moved using the left analogue stick and a PC mode that replicates a PC controller. While the mode switch itself was more awkward to use on our device

Review

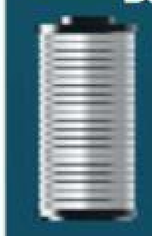
Mad Catz M.O.J.O.

information

Price **£219.99/$249.99**

» More information
madcatz.com/M.O.J.O.

Battery life



N/A



technical specs

- Operating system ..... **Android 4.2.2**
- Processor ..... **Nvidia Tegra 4**
- Memory **2GB**
- Dimensions ..... **130 x 114 x 50mm**
- Expansion slot ..... **micro SD, USB 2.0, 3.0**



Performance

The M.O.J.O. will handle everything you throw at it thanks to the very capable Tegra 4 chip and generous 2GB of RAM

Design

The console and controller both have designs that are simple, yet striking, at the same time. Nice and compact

Features

The out-of-the-box software on the M.O.J.O. lets it down – there's much work to be done in future releases

Value for money

The M.O.J.O. outprices a Tegra 4 tablet plus a Bluetooth controller, which is too expensive for our liking

» Verdict

The M.O.J.O.'s excellent hardware is let down by unrefined software. The device's success will depend on future improvements

Three great apps for the M.O.J.O.



Riptide GP 2

£1.99/$2.99

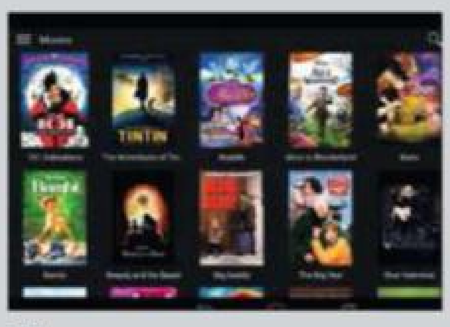
Riptide GP 2 from VectorUnit is a great title to demonstrate exactly the game that will ultimately make devices like the M.O.J.O. a success. Great graphics, perfect controller support and a low price.



Sonic the Hedgehog

£1.99/$2.99

One of the best uses of the M.O.J.O. is for retro gaming, either with machine emulators or with updated ports like Sonic. Again, controller support is great and Sonic is every bit as good as you remember.



Plex

Free

If you have a machine at home to run the Plex server on, it's a great way to access your media across the network. It runs perfectly on the M.O.J.O. even with the most demanding of content.

than we'd like, it's clear the controller itself builds upon Mad Catz's considerable experience in the area, with great-feeling analogue sticks and reassuring, clicky buttons. Everything you'd expect to see is here – dual analogue sticks, a D-pad, four main buttons, two shoulder buttons, two triggers and back and start buttons. Media control buttons are also included.

Offering a conventional Android user interface is very much a double-edged sword. While it's immediately familiar to anyone who uses an Android device, it means that unlike some of its peers such as the Ouya, navigating around on the box it means apps you'd expect to be able to install on the M.O.J.O. are unavailable.

As is often the case with Android, the OS's inherent hackability comes to the rescue. The M.O.J.O. has an unlocked bootloader and a third-party mod is already available that roots the device and adds the missing touchscreen flag, restoring the missing apps from the Play store. Things will improve over time, but you'll want to use this at this early stage in the product's life.

The good news is that once you get your apps on, the two main things the M.O.J.O. is going to be used for – gaming and media playback – really are great. Plex, the popular media playback application, runs like a dream and the 5GHz Wi-Fi support is a real boon. The most power-hungry games run smoothly on the device and retro gaming is fantastic fun.

> "The most power-hungry games run smoothly and retro gaming is fantastic fun"

M.O.J.O. isn't optimised for a non-touch experience. You'll generally find yourself using the controller in Mouse mode to navigate around then switching to the Game Smart mode. This is rather frustrating at first, although it is something that becomes easier with practice, at least until you come to enter some text (such as logging in to your Google account). Using an on-screen keyboard with an analogue stick and a mouse pointer is not a pleasant experience – a Bluetooth keyboard/touchpad is a very sensible investment, which thankfully works fine on the M.O.J.O.

Loading games onto the M.O.J.O. itself should be a breeze thanks to the inclusion of the Google Play store (the M.O.J.O. has GMS certification) but unfortunately the reality is a little more complex. The Google Play store uses hardware profile information to determine which applications are compatible with which devices. The problem here is that a huge number of Play store apps are set to require the touchscreen feature, and the M.O.J.O. doesn't have that, so swathes of the store shows as 'not compatible' (even some parts of GMS such as Gmail). Mad Catz is educating developers to change their apps to be compatible, but out of the

There is another huge caveat though and it reveals another weakness of using a virtually stock version of Android on the M.O.J.O. – controller mapping. Where games are designed to be played using a controller (or updated for the M.O.J.O.), then everything is awesome. But where games are designed to use touchscreen or tilt-control only, then the game can end up unplayable as Mad Catz has provided no way to map controller buttons to on-screen actions (unlike, say, the Nvidia Shield).

The M.O.J.O. is very much an Android enthusiast's machine, demonstrating both how much potential the concept has together with how much work is still to be done. If you're willing to put a bit of effort in to tweaking it, and also embrace that it's very much 'stock Android on a TV', then it can ultimately be rewarding. The M.O.J.O. will no doubt improve, but be ready for some frustrations. And don't throw away your Xbox just yet.

Steampunk

Accessories

Protect your device

Cases, chargers and stands for your phone or tablet



StoreMags

① Crystalusion Liquid Glass

» **Price** £7.20/$10.99
» **More information** www.clove.co.uk

Cases add bulk to your phone, and screen protectors are hard to install without getting bubbles below them. Liquid Glass is applied by simply wiping the substance onto the screen. It's indiscernibly thin, leaves no bubbles, but we cannot say it was as effective against fingerprints as we'd hoped.

② Snugg Nexus 7 Leather Case Cover and Flip stand

» **Price** £29.99/$48.99
» **More information** www.thesnugg.co.uk

The Snugg is a stylish and fully featured leather case. It's a secure fit and has magnets in the front to turn the screen on and off, a loop to house a stylus, and stands in two positions, one upright and one flatter. Available in eight colours, it's highly recommended.

③ Goo.ey skins

» **Price** £14.99/$19.99
» **More information** www.gooeyskins.com

Goo.ey skins come in versions designed for Samsung phones or iPhones. They apply to the back of the device and the outer side of the skin has a grippy texture that means you can stick it to almost any flat surface. It holds your phone securely, yet won't pick up fluff when the phone is in your pocket.

④ OSO 360 Grip in-car mount

» **Price** £21.99/$24.99
» **More information** www.osomount.com

The OSO 360 Grip will keep your phone secure when using it in your car. It attaches steadfastly, and is flexible enough to be manoeuvred into whatever position you need it. The grip is not device specific, so will fit any phone up to 90mm wide, which includes phablets like the Galaxy Note 3.

⑤ Flip Shell for Moto G

» **Price** £18.99/$29.99
» **More information** www.motorola.com

All first-party cases are more expensive than their counterparts, and they are also always close to perfect. The Moto G is no exception in either case and houses magnets to turn the screen on whenever you open it. It fits perfectly; an impressive addition to an impressive phone.

⑥ Proporta USB TurboCharger 7000

» **Price** £54.95/$74.95
» **More information** www.proporta.co.uk

This TurboCharger packs enough capacity to fully recharge a typical smartphone battery at least twice, or a tablet once. But if you use it only for top-ups as you need them you'll find it lasts a week before it needs to recharge. Connects using the standard micro USB cable.

"This TurboCharger packs enough capacity to fully recharge a typical phone battery twice"

⑦ Universal tablet and smartphone stand

» **Price** £9.95/$14.95
» **More information** www.proporta.co.uk

Products don't come any more basic than this tablet and phone stand. It amounts to a couple of pieces of stiff plastic that fold out to form said stand. The lip on the lower part is large enough to hold pretty much any phone or tablet in either portrait or landscape mode.



stripmags.com

Wireless gadgets

From audio to home security, we cast an eye over a collection of Android accessories that you need to have a look at

① Minix NEO X7 Android TV device

» **Price** £80/$150
» **More information** www.minix.com.hk

The NEO X7 is an Apple TV-styled device that sits under your telly with a rather ungainly Wi-Fi antenna that at least ensures a strong signal. You get the full suite of Android apps, which makes it ideal for Netflix or BBC iPlayer, or load up the Cheapcast app and you can beam content from your phone too.

② Philips Fidelio M1BT headphones

» **Price** £237.99/$300
» **More information** www.philips.co.uk

The M1BT are a very lightweight set of Bluetooth headphones that deliver a greater punch than you might expect. While the build quality is perhaps not quite at the level you'd want for over £200, the sound quality they produce is rich and dynamic, making them a solid if unspectacular choice.

"Sound quality is rich and dynamic, making them a solid if unspectacular choice"

③ Freedom Bluetooth keyboard

» **Price** £33/$55
» **More information** www.freedomtechnology.com.hk

This entry-level keyboard lacks the backlit keys of its more expensive counterpart, and given the choice we would go with the latter for its added usability as a result. It pairs quickly, though, and is a no-fuss affair. The keys have good feedback and it's possible to type quickly.

④ iZON Video Monitor

» **Price** £99.95/$129.95
» **More information** steminnovation.com

This tiny video sits discretely in your home and enables you to check what's going on even when you're not there. With a 60-degree viewing angle you can get a good scope of the area although it can be a tad over sensitive and the connection not always reliable. A good idea, nonetheless.

⑤ Maxmon Quatropus-SA

» **Price** £250/$413
» **More information** www.maxmon.co.uk

The Quatropus-SA is a bundle of products that help you monitor and control a remote property, such as a caravan, boat or even a car in a garage. It needs an Android device to be able to monitor and report, so a cheap PAYG one is recommended. The setup isn't elegant – there are wires everywhere – but it works.



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