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PROBLEMS SOLVED

⊕ How can I get better signal? ⊕ Is it safe to root?
⊕ What is draining my battery? ⊕ And more...



**S6 Edge+
vs Note 5**

Best Samsung Galaxy
revealed in phablet face-off

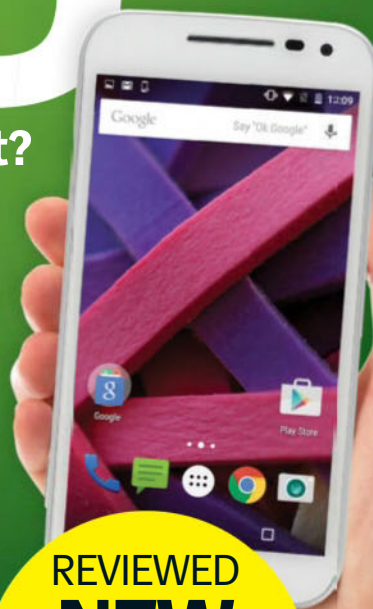
**STAGEFRIGHT
EXPLAINED**

Fix the bug plaguing
one billion Androids



**GET iOS 9
ON ANDROID**

Enjoy the new iPhone 6S design without any of Apple's restrictions



**REVIEWED
NEW
MOTO G**
The budget-buy you
design online

**SEND TEXTS
TO YOUR PC**

Carry on SMS conversations
away from your phone



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Should you
take note of
Samsung's
new phablets?
See page 22

Welcome

Why does my battery always run low? Is rooting safe? How can I get better signal? Whether you've just unboxed a brand-new phone or have had the same one for years, there are some age-old questions all Android users ask. For this issue, we asked you all to submit your most persistent problems and we've done our best to answer fifty of them from page 10 onwards.

If you've been paying attention to the news, another question you might be asking, with increasing alarm, is 'What is Stagefright?' This killer bug affects a billion Android devices and leaves them all wide open to attack from hackers. While Google, Samsung and many of the biggest manufacturers have now rolled out a patch to fix the Stagefright vulnerability, many more phones, in particular older models, are still at risk. Find out what you can do to protect

your phone or tablet from page 18.

Motorola have already confirmed their new phone, the Moto X Style, will be updated with the Stagefright fix before shipping. You can read our review of Motorola's other new release, the Moto G (2015), on page 68. We also have reviews of the Huawei P8, the Sony Xperia Z3+, and you can find out what we think of the new Galaxy S6 Edge and Note 5 from page 22.

If you're feeling very security conscious, find out how to protect your phone from thieves from page 28 onwards.

Jack Parsons

Jack Parsons
Editor



MEET THE TEAM

What's your top tip for keeping your Android secure?



Jack Parsons
Editor

Lost your phone? Type 'Where's my Android' into Chrome for PC to view its GPS position on a map and the option to ring it remotely.



Jamie Frier
Staff Writer

I make sure that I only ever download from Google Play and check app permissions carefully. I want to keep my personal data personal.



Adele Jordan
Production Editor

I love my phone and would hate it if it was stolen, so for my top tip: don't advertise it, keep it hidden in your handbag or in your pocket.



Adam Markiewicz
Senior Designer

It can be tricky remembering lots of passwords, but instead of writing them down, use a password vault like LastPass or 1Password.

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FREE – exclusive with this issue

» Unboxing videos

» Video tutorials

» Wallpapers

Watch us get our hands on the Huawei P8 and Moto G

Expert video guides to follow along with this issue's tutorials

Stunning backgrounds for phones, tablets and Chromebooks

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CONTENTS

26 Exclusive subscription offer 67 Special offer for international readers

Launcher



Previews, news and speculation from the world of Android



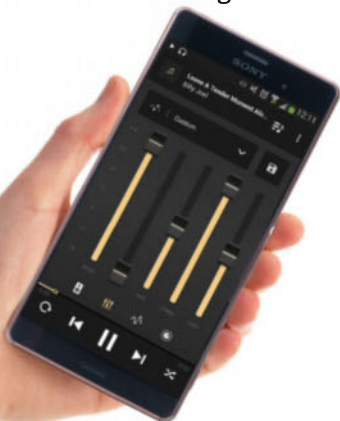
06 10 things you need to know about Android Marshmallow

Google have confirmed the name for Android 6.0, but what will the update include?



08 Move over Google Glass

Vuzix has an eye on the future of smartglasses



09 Must-have music apps

Top downloads for audiophiles

PROBLEMS SOLVED

10 Android magazine helps you out with your mobile headaches

Stagefright Explained

18 Find out how to fix the killer bug affecting one billion Android devices

S6 EDGE+ VS NOTE 5

22 Samsung's brand new phablets go head-to-head

Hacker Zone This month's top mods and tweaks

47 Get iOS 9 on Android
Enjoy the new iPhone design without any of Apple's restrictions

52 Hacking Tips & Tricks
Top hacks to mod your Chromecast

54 Run Android 6.0 on an Xperia
Preview next-gen Android on your Sony Xperia using FreeXperia

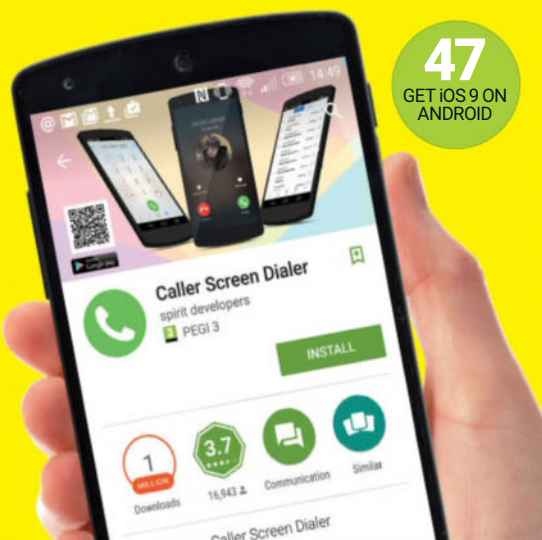
56 Hide your root access from prying apps
Just because you rooted Android shouldn't mean you can't use your favourite app

57 Use Action Widgets to toggle settings
This Xposed module will add quick setting widgets to your homescreen

58 Format your SD card for more memory
Trick your device into using an SD card as additional internal storage

60 Redesign AOSP with Wanam Kit
Better known for customizing TouchWiz, Wanam Kit also works with vanilla Android too

62 Scramble your CyanogenMod PIN
Add an extra layer of security with this easy to turn on CyanogenMod scramble feature



47
GET iOS 9 ON
ANDROID

Reviews

Latest tech tested

68

MOTO G
(2015)

64 Huawei P8
68 Moto G (2015)
70 Sony Xperia Z3+
72 LG Spirit 4G
74 HP Chromebook 14

76 Accessories
Orbitsound A70 airSOUND Bar and Aëdle VK-1 Legacy Edition headphones reviewed

88 Buyer's Guide
Monthly top 10 tech charts



64

HUAWEI P8

Apps

Your complete guide to Google Play

78 App reviews
The latest and greatest apps on test

82 Head-to-head
Google Photos takes on Flickr

84 Game reviews
The best games reviewed

86

XENOWERK
REVIEW



20+ APPS

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Tutorials

Get more from your device

28 Masterclass: Stop thief!
Keep your phone and data safe from burglars

32 Tutorials

32 Add Instagram photos to your lockscreen
33 Get custom alerts with Hooks
34 Carry on SMS conversations on your computer with Pushbullet
36 Create a child-friendly Android
38 Set up custom hotkeys with Clavis Keyboard
40 Set up a rotary homescreen
41 Fully disable Google Photos auto-upload
42 Create custom live wallpapers
44 Add to Google Maps with Maps Maker

92 Droid Support
Readers' questions answered



32

ADD
INSTAGRAM
TO YOUR
LOCKSCREEN



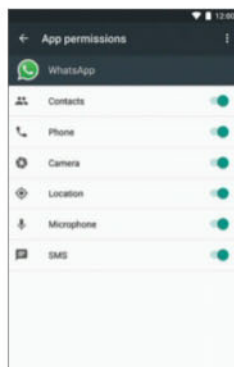
We called it!

The next version of Android has been officially confirmed as Android Marshmallow and the final beta version is available from the Android Studio now. Pat yourself on the back because this is the very name 40 per cent of you voted for in our reader poll in issue 53. Commiserations to those of you that were holding out for Android Milkshake or even Android Macaroon. Google have also confirmed it will be version number 6.0, rather than Android 5.5 as some had expected.



You can now personalise your permissions

The biggest improvement we can see in Marshmallow is control over app permissions. You'll no longer have to grant blanket permissions to apps, instead you will be able to pick and choose what data and sensors apps can access. For instance, messaging apps will only be able to access your microphone if you say and only when you use speech-to-text dictation. This should make people a lot more comfortable when downloading apps using Marshmallow as it keeps your confidential information secure.



Have a quick doze

A headline feature of Android 6.0 is Doze Mode, which will put your device into a deep sleep whenever it is left on standby, prolonging your battery life. The device knows when it's not being used and shuts down all functions, only waking up when it registers that it's in use or a high priority notification comes through. Tests have shown that Doze can double the battery life of a Nexus 5 which could save you from having to recharge your phone or tablet on a daily basis.



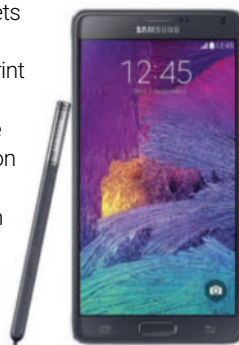
You can identify bloated apps that use up your memory

Quite often your Android runs out of storage space and you haven't got any idea which app is responsible for taking up a huge chunk of your memory. However, Marshmallow has introduced a feature where you can dive into the Memory menu of Settings and see exactly which app is using up most of your memory. You can then uninstall it to give you much more room to download the latest memory-sapping apps and repeat the process all over again!

Process	Memory Usage	Status
Chrome	7.1MB	Rarely running
Privileged_process0	6.6MB	Rarely running
PrivilegedProcessService0	Sometimes running	
Sandboxed_process0	1.7MB	Rarely running
Sandboxed_process1	807KB	Rarely running
Sandboxed_process2	281KB	Rarely running
Sandboxed_process3	168KB	Rarely running

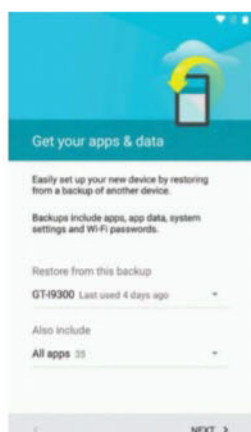
New fingerprint features

Android Marshmallow lets you do so many more things with your fingerprint than just unlock your phone. You can also use the fingerprint scanner on your mobile, should it already have one, to sign into the Google Play store and make purchases. This will remove the need to constantly retype passwords in time-and-time again. There are many more applications for the fingerprint scanner, but downloading apps safely and quickly is probably the most useful one of the bunch.



Safety first

Should your phone crash while using Android Marshmallow, you won't lose all your app data. Even if you haven't manually backed up your apps, you will retain some data as your phone will



automatically back up 25MB of information per app. Essential information will be uploaded on a regular basis to your Google Drive account, where you can there recover it once your phone is up and running again. The days of losing everything after a crash are over, thanks to the new Android Marshmallow.

Pay your way

Android Pay is still being prepared for the mass market, lagging behind Apple Pay and Samsung Pay, despite being discussed at Google I/O several months ago. However, we are looking forward to using the fingerprint scanner in order to authorise payments anywhere you could normally swipe a card to pay for goods. Android Marshmallow will be the first Android version that we will be able to use Android Pay on, when it finally rolls out to the general public.



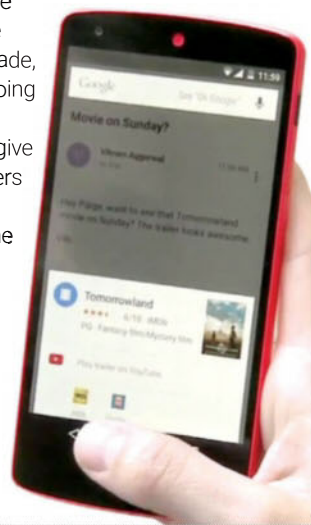
Multi-task in Multi-window

Samsung users will be well used to Multi-window Mode, having had it on their Galaxy phones for a number of iterations now, but Android Marshmallow will bring the service to all Android handsets. Users will be able to view up to four windows on the same screen, so that you can watch a YouTube video while messaging your mates, or playing a game. With so many manufacturers creating 5.5- or 6-inch phablets, this could now become a very worthwhile addition to Android devices.



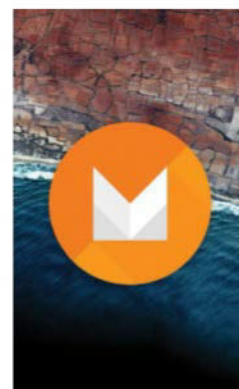
Google Now on Tap

Google Now on Tap has been exciting us ever since we saw what it was capable of at Google I/O. Your personal assistant has been made much smarter and more intuitive. With the Android 6.0 upgrade, Google Now is going to morph into a service that can give you useful answers you want, even before you ask the question! For instance, when it senses your reading an email inviting you to see a movie, it will instantly offer nearby showing times.



It's not quite ready

As we mentioned earlier, only the final preview version is available now, so you're still going to have to download an APK if you want to enjoy the full features that Android Marshmallow offers before the consumer version gets an official rollout. However, the OTA update is expected to arrive some time in the autumn, so fortunately you haven't got long to wait. But if you want to help Google iron out some more Marshmallow bugs, then get to the Android Studio right away.



NEW TECH | Vuzix M100 Smart Glasses

Move over Google Glass

Vuzix has an eye on the future of smart glasses with the brand new M100

When the Google Glass Explorer programme was shut down in January, commentators were quick to say smart glasses were over before they had even began. However, while Google Glass' demise was making headlines, Vuzix was quietly selling their own M100 smart glasses to over 40 Fortune 100 companies, including big names like Hewlett-Packard. Vuzix has also launched a Prosumer edition, which is available for anyone to pre-order through Amazon now.

This Android-powered wearable includes a head-up display that projects an image into the corner of your eye. As well as working with AR apps, it has a HD camera built in for taking still pictures and recording videos. Though it can connect with your phone and other devices via Bluetooth and Wi-Fi, it can store up to 32GB via microSD card. Impressively, it can do all of this and the battery will still last eight hours.

Processing power

The M100 has 4GB storage built-in and support for a 32GB microSD card. It also has 1GB RAM, so it handles all of its own processing, reducing the lag between your phone and the headset

Augmented reality apps

As well as displaying notifications and videos, the M100 supports a range of augmented reality apps. For instance, providing directions that you can see when navigating from place to place

Connectivity

The M100 can connect to Wi-Fi for internet access and has Bluetooth 4.0 to quickly pair with your phone without wasting battery. Connecting via your phone, it can also make and receive calls

Android inside

The M100s are powered by Android 4.0.4, but with Vuzix's own OS 2.0 skin on top. You also can't access Google Play on the smart glasses, but you can download apps from Vuzix's own app store

At a glance

- » **Product name** Vuzix M100 Smart Glasses
- » **Available from** vuzix.com
- » **Price** \$999.99

This Android headset is geared towards professionals such as engineers and doctors, but anyone can buy the new Prosumer edition through Amazon.com

Set eye preference

Just as you can be left or right-handed, so you can have what's known as left or right eye dominance. The M100 accounts for that with the choice to use the headset with either eye

Q & A



Paul Travers, Vuzix president and CEO, explains how M100 smart glasses have become the business world's go-to headset

In a post-Google Glass world, do smart glasses still have a place?

A I think they are going to replace the phone in the end. For instance, smartphones can help you get from point A to point B, but it's still a little clumsy. Imagine if you could ask your glasses how to get to the restaurant and it is just painted directions on the street in front of you. The street could light up in orange in the direction that you need to go, just like the first down yard line in an American football game. Another example, with our current glasses is that you can read a menu in a Japanese restaurant and the characters will be translated into English. These are things that will happen through a pair of glasses that you cannot do any other way.

But you don't believe smart glasses are suitable for everyday users yet?

A Vuzix is convinced that until smart glasses can look like a pair of Oakley sunglasses, with that high-fashion look, it is just not going to be that successful in the consumer space. You can't look like you've just stepped off the Starship Enterprise, the technology has got to disappear.

However, you have sold M100s to big businesses around the world. What do they use them for?

A There are all kinds of companies that every time you turn around are doing another really cool thing with it. HP just came out with what they call Visual Remote Guidance. If you've got a problem, with anything from a jet engine to large-scale printers and someone doesn't know how to fix it, tech support can help them do the repairs by watching the video streaming out of the headset. HP can even circle a particular thing

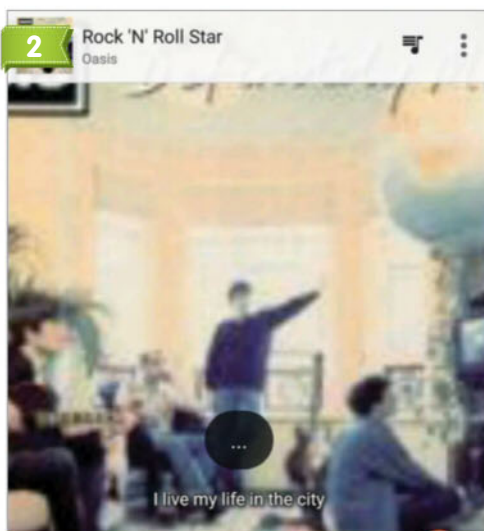
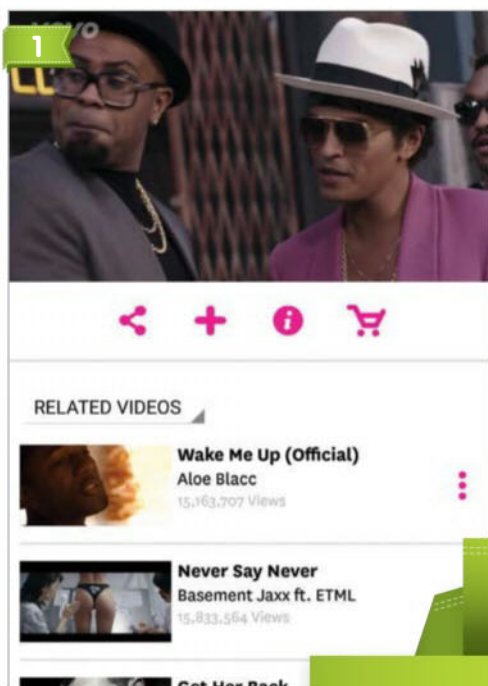
in the person's field of vision and say 'push that button' or whatever it might be.

Who is the new Prosumer model aimed at?

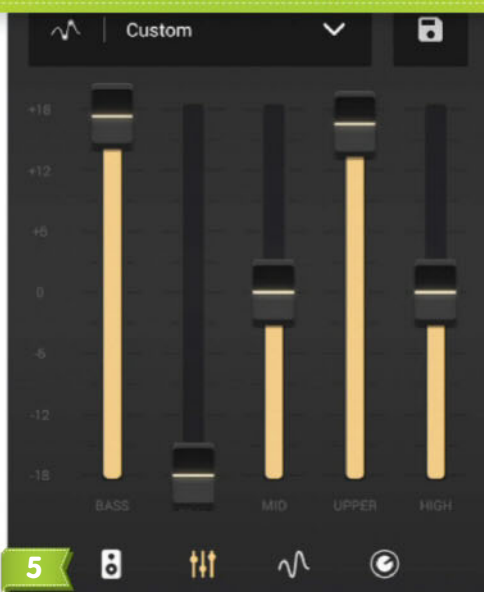
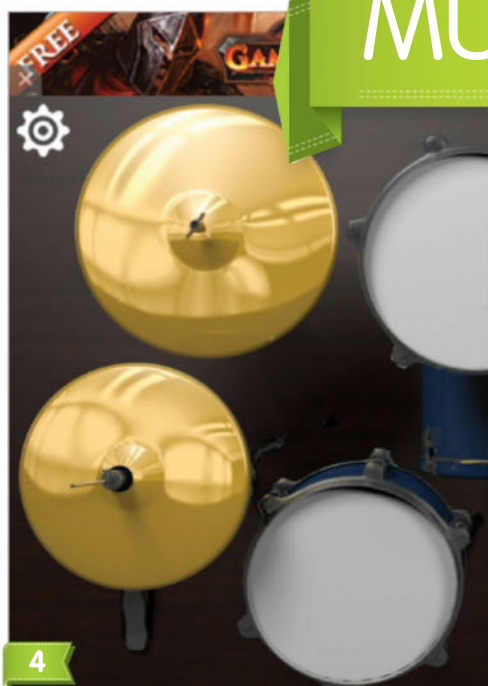
A People who do remote video need a hands free way to record videos, guys that ride bikes that you know need GPS information or want to track what they are doing along the way. It's for people who are doing kind of 'out there' stuff. It's not necessarily for the average guy.

Do you own a pair of M100s yourself and what do you use them for?

A They are one of my toys that I helped build, so I do own a pair. I work at a desk, so I don't need to use them all that often, but I like to use them to record things, when I go hiking in the woods with my wife, for instance.



GALLERY OF... MUSIC MUST-HAVES



1 Vevo

 This is the app to go to for official HD music videos and live performances from your favourite bands and solo stars. Vevo has a huge catalogue, it is completely free and you can create your own playlists very easily or let the app choose the next tune for you.

» Price: Free

2 Musixmatch

 If you want to sing along to your favourite song, but are a little unsure on some of the lyrics, Musixmatch is great for you. The app runs alongside your other music playing apps, recognising the song that is playing and then displaying the lyrics on screen.

» Price: Free + IAPs

3 Guess the Song

 This is a pretty fun game that doesn't need a whole lot of explanation. There is a huge range of categories. However, it will really test the breadth of your musical knowledge as further categories are unlocked later on in the game.

» Price: Free + IAPs

4 Drum Solo HD

 One of our favourite music making apps is Drum Solo HD. You're set up with a full drum kit so you can Ringo away, with just your fingertips, to your heart's content. There's a range of backing beats to help keep your rhythm.

» Price: Free

5 Equalizer Music Player Booster

 If you're searching for the perfect sound, try this free download. You can amplify the bass, adjust the highs and lows of any song you listen to, as well as explore lots of other audio settings.

» Price: Free + IAPs

6 DJ Studio 5

 If you fancy yourself as a bit of a DJ but don't want to shell out for a set of decks, then DJ Studio 5 is the app for you. Play two track at once and mix them together. Using touch controls, you can even scratch them for that authentic club night experience.

» Price: Free



PROBLEMS SOLVED

50 common Android smartphone and tablet problems solved

It doesn't matter if you're a rooting-wizard or you've just picked up your first Android phone, problems with technology are pretty inevitable. It could be a phone-wrecking error or a simple battery life frustration, but somewhere, you will probably need to turn for help.

Luckily, we have heard your cry for help and decided to do something about it. We've reached out to our readers, Facebook fans and Twitter followers to discover their bugs and gripes with

their devices, and they have replied in their droves, with problems ranging from SD card woes to camera launch times. We've picked 50 of the most common problems that you've sent to us and created this handy guide that should ease your Android-related troubles. We've put together tutorials, tips and app lists that should make your Android-life that little bit smoother. Whether you need help with RAM management, Lollipop fixes or loss of memory, the next seven pages should

hopefully have you covered.

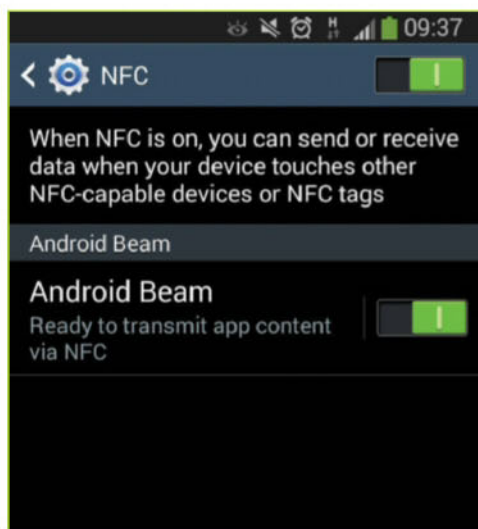
If not, make sure you get in touch with us on Twitter (@lgrobot), Facebook (facebook.com/littlegreenrobot) or email qa@littlegreenrobot.co.uk and we'll do our very best to help you out. In the meantime, get stuck into this comprehensive list of the problems that most Android users have faced and hopefully it will sort out your current problems, and safeguard you against any future issues you may have.

Why does NFC sometimes stop?



"NFC is not particularly reliable. Does case thickness have an impact?"

Barry Walton via Facebook



+ NFC works via a chip in the phone communicating with a chip in the receiving device, such as a speaker or payment terminal, to transfer data. It doesn't use much power at all and works wirelessly so, when it works, it's a great feature. However, lots of people report problems with NFC and that is generally due to the battery or phone case. If your phone says it supports NFC, but it has never worked, it could be because the chip is embedded in the back cover and that has been replaced at some point. This is the situation for phones such as the Samsung Galaxy Note 2. If it only works intermittently, are you swapping your batteries around? The Samsung Galaxy S3, for example, has the NFC chip in the battery, so if you swap it out for a non-official battery, you could lose NFC capability. The case could prove to be an issue if it is made of a conductive material, such as metal. A standard plastic case shouldn't affect the transmission at all. Check where the NFC chip in your phone is stored and make sure you aren't occasionally removing it from the phone and losing the NFC capability.

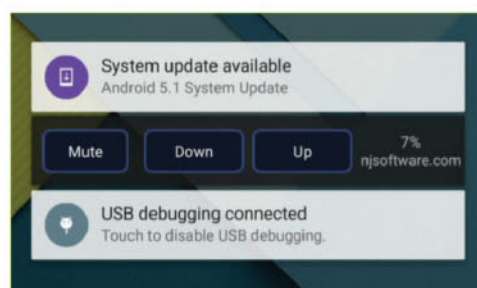
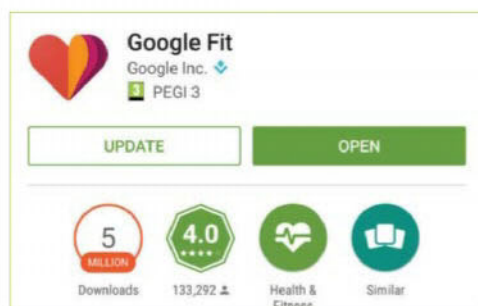
How can I recover my battery life?



"The battery drain on my Samsung Galaxy S4 is terrible. Is there a way to stop it?"

Richard Mottershead via Twitter

+ This is an issue that has been reported by so many people since Android 5.0 rolled out. Not even Android 5.1 sorted it out, although we have been promised great things with Android M this autumn. The main issue with Lollipop was system bugs, as is inevitable with new OS launches. However, apps that aren't optimised for the new OS will also prove to be a massive drain, so try updating all your apps to the latest version. Check out our further tips to help save battery life down the side of this page, but otherwise, keep your fingers crossed and wait for Android Marshmallow's arrival!



Where has the volume control panel gone?



"Ever since I upgraded my Sony Xperia Z2 to Lollipop, I can't pull down the notification bar to change volume settings. Can I get it back?"

Adam J Pearce via Facebook

+ Oh, the volume settings disappearance fiasco. That was not a popular decision by Google and they know it. You'll be pleased to know that a version of it will return in Android Marshmallow, but that's no good to you now, especially as it's unlikely that the Xperia Z2 will get Marshmallow in 2015. Luckily, there's an excellent app called Volume in Notification that will do the job for you. Download it from Google Play, open it up and you will have the option to mute and adjust volume up or down in your notifications bar just as in the good old days!



What can I do to prevent battery loss?

Martyn Landi via Twitter

Locate the culprit

Often there will be one app in particular that is gobbling up all of your battery life. Head to Settings> Battery to view a breakdown of battery usage. Once you find the offending app, close it or consider uninstalling it.

Blame the OS

If you can't find any issue with any particular app, it could even be the OS itself that's causing the problem. Boot your phone in safe mode to avoid loading any third party apps. If you still experience the drain, then it's your OS's fault.

Lose the animations

Your swirling, swaying live wallpaper may look delightful, but all those moving pixels are gnawing constantly away at your battery. If you're concerned about battery life, the best thing we can recommend for your homescreen is a dark coloured, stationary background.

Keep it mid-range

Most people think that you should run your battery down to zero and then charge it fully, but this actually uses up charge cycles and ultimately drains your battery. Top up your phone throughout the day, trying to keep it between 50 and 80 per cent.

Keep it cool

Another reason for battery drain is your phone overheating. This shrinks the battery and reduces its capacity. Take the cover off while it's charging or if you're playing an intensive game. This should keep your phone cool and your battery happy.

TIP

Recovering Silent Mode

Silent Mode was replaced with Priority Mode in the Lollipop update. For the same configuration as Silent Mode, press on the volume down button, select None and then Indefinitely. This will ensure no interruptions come through.

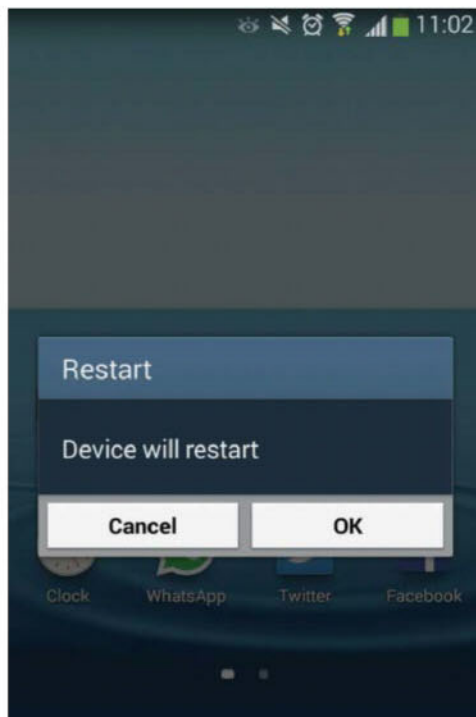
How can I restart my phone quickly?



"I hate having to confirm that I'm sure I want to restart my phone. Is there a way to bypass this at all?"

Jamie Walton via Facebook

+ As we're sure you can appreciate, the 'Are you sure?' button is there to avoid accidentally restarting your device when you've pressed the wrong button and then having to wait for it to boot up again. However, we understand that it can be frustrating to have to always tap a second time to confirm. You are able to bypass this, but you will need to have root access. If your phone is rooted and compatible, download Oneclick Restart from the Play store. Grant it access to your phone and add the widget to your homescreen. Then, instead of long-pressing power, selecting Restart and confirming, you can just open the app and it will instantly restart, saving you precious seconds. Make sure you have everything saved though because it works instantly and there are no second chances.

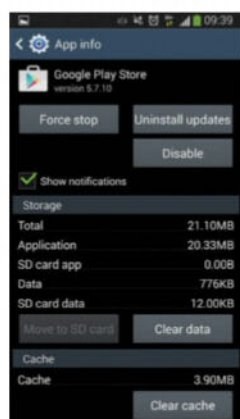


Why have Google Play services stopped?

"Whenever I try and use Google Play store, it tells me Google Play services has stopped. Can you explain why?"

Andy Jones via email

+ If the Google Play store is refusing to work, then that's a major problem as this is your gateway to app downloads and other services, such as your Google Play Music and Google Play Books. This has probably occurred soon after updates, possibly without you knowing if you've activated automatic updates. The best way to deal with this issue is to go into your phone's Settings,



find Apps, find Google Play store or Google Play services and uninstall the updates. This will revert the settings to how they were before when it was working. This will give Google chance to work out the bugs, then update next time they rollout patches. Hopefully, Google Play services will then be back to normal.

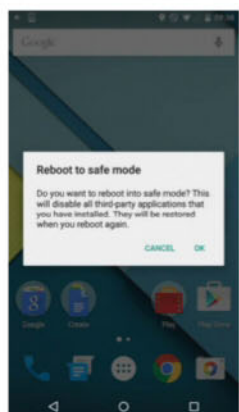
How can I get rid of a virus?

"If I download an app with a virus, is there any way of deleting it?"

Terri Anderson via email

+ Although there is that frightening statistic that 97 per cent of mobile malware is on Android, the majority of that comes from dodgy third-party app stores. Google Play is actually remarkably safe with only one in a thousand apps having any kind of virus attached. However, if you do discover that you've got something malicious on your mobile, there are a few easy things you can do to remove the app and therefore the virus.

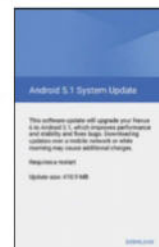
Boot your phone in too Safe Mode to stop any downloaded app running. This can usually be achieved by pressing and holding Power Off. Once in Safe Mode, locate any apps that may be the cause of the virus. It may be one that you don't remember downloading or have downloaded recently. Uninstall the app and, in most cases, that should delete the virus as well. Always be suspicious about apps that you aren't sure about.



Why does Lollipop keep crashing?

"Lollipop keeps crashing on my LG G3. Why is this?"

Ian Dare via Facebook

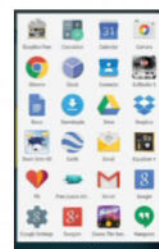


+ Your apps are almost certainly crashing because they aren't optimised for Lollipop yet. This is leading to them struggling to work with the new OS and just giving up. If you can revert to KitKat then that might be an option, or you may have to wait until the Android 5.1 or Android M update makes its way to your LG device. You can always stop using the apps that are causing you frequent problems.

Can I change the white Lollipop UI?

"I hate Lollipop's white UI. Is there any way to change this?"

Lee Dorney via Facebook



+ The app drawer in Lollipop changed from dark to bright white because the launcher got bundled in with Google Search, which of course has a white background. This uses more power and many users complain it's too bright at night. In the forthcoming Android M update, you will have a choice of light and dark themes, but until then your best bet is to download an alternative launcher.

How do I get Lollipop?

"My phone still doesn't have Lollipop. How do I get it?"

Ian Dare via Facebook



+ We're glad someone still wants Lollipop! It really is a good OS, but the rollout has been a bit of a shambles. Firstly, you'll need to make sure your phone can get Lollipop as some older devices won't support it. Then, you just have to hold tight and wait for your carrier to push through the update. Otherwise, if your phone is rooted, you can download the Lollipop APK from the XDA Developers site.

How do I send large files?

"I often need to send pictures or files from my phone, but I always end up hitting the max-file limit. How can I send these more easily?"

Karl Best via email

Phones and tablets are fast becoming essential workstations and entertainment centres. Office apps allow you to create presentations on your tablet while higher-resolution cameras let you shoot excellent quality photos and videos. However, both of these come at a price because the increased file size makes it tricky to send folders, such as your holiday snaps, via email as most have quite a low file limit.

Your best bet will be to download some kind of cloud storage app, such as Dropbox. The main purpose of Dropbox is a file back-up system so if your phone is stolen, you won't lose all your photos and documents. It also lets you package them up and send them to a contact via email without getting close to the file limit by zipping them all up. This is enormously useful because you can send dozens of huge files to anyone and they can then download and unzip them at their convenience. For hassle-free storage of files that you can send in bulk, we would really recommend the Dropbox app or a similar file-storing app because it will take a lot of work out of sending big files.

It's free!

The other great thing about Dropbox is that you get 2GB for free, which can be topped up if you invite other people to use the service

Stop, collaborate and listen

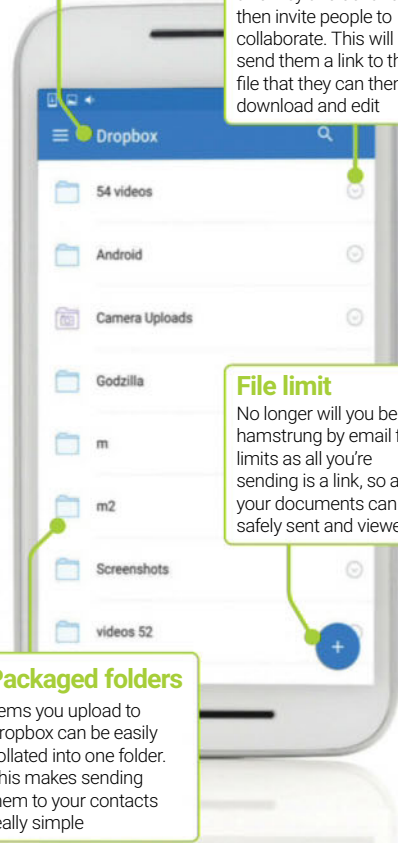
Click on the downward arrow by a folder and then invite people to collaborate. This will send them a link to the file that they can then download and edit

File limit

No longer will you be hamstrung by email file limits as all you're sending is a link, so all your documents can be safely sent and viewed

Packaged folders

Items you upload to Dropbox can be easily collated into one folder. This makes sending them to your contacts really simple



TIP Why can't I sometimes find a particular app in the Play store?

Chances are it's because your device isn't compatible. If your version of Android is a little old, an app might not run on it, so the store just won't show you apps that can't work on your device.

"How can I unlock my phone?"

Janet Crows via email

Phones that have been sold as part of a contract will often be locked to a particular network so that you're unable to switch to a new carrier at the end of your deal. However, most carriers will sell you an unlock code if you ask them. Tell them your phone's brand, model number and its IMEI code. This can be found by typing ***#06#** into your phone's dialler. Once you have your code, pop in your new SIM and type the code in when requested.

"If my phone gets wet, is it ruined?"

Keith Millbrook via email

Your phone won't be ruined forever if it gets wet, but you need to act pretty quickly to save it. The first step, is to whip out the battery, SIM card and SD card to make sure they don't suffer too much water damage. Dry your phone by burying it in uncooked rice or silica gel packets to absorb all the moisture. If you've done this, then there is a chance your phone might just survive.

"How do I discover if my phone supports wireless charging?"

Colin Quentin via email

Wireless charging has only really become widely supported in the last couple of years, so only the newer phones really have the capability. Most of the Samsung Galaxy ranges are supported, as are the Nexus 4, 5 and 6. The LG G3 and G4 can both be charged by using induction coils, as can the Sony Xperia Z3. You can find a comprehensive list of all the phones that support Qi wireless charging at Qinside.biz.

"Why does my phone get so hot?"

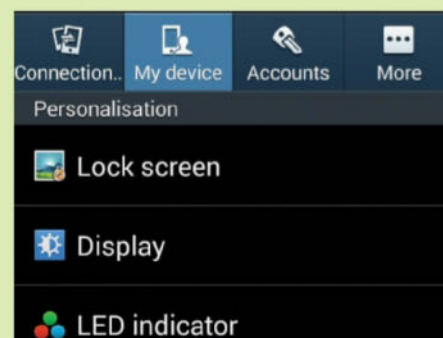
Ellie McMahon via email

Hot phones are caused by your processor having to work overtime to keep up with the tasks you've set it. This mostly occurs if you're playing a game that involves a lot of quickly moving graphics or if you're running several apps at once. This will result in your battery life dropping so if you can feel it getting hot, stop your game or close a few apps. Taking off the cover will help too.

Stop your screen from fading to black

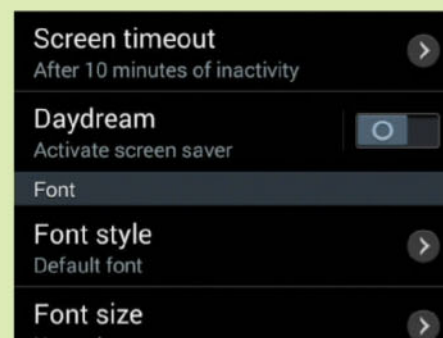
"My screen keeps darkening when I don't want it to. How do I stop this?"

Gareth Simnal via email



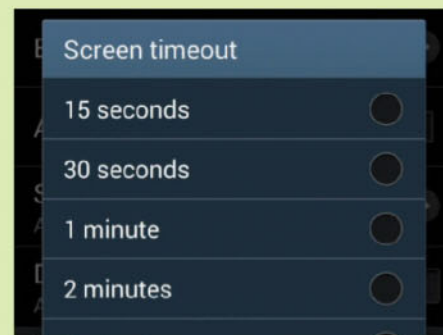
1 Head into Settings

Your phone will go dark because the screen is set to time out after a particular period of inactivity. This is with the intention of saving your battery. Pull down the quick settings menu and tap the cog.



2 Find display settings

Scroll down through the menu until you find the Display settings. Tap on that and it will open up a range of options to do with your screen settings. Scroll down again until you find the menu for screen timeout.



3 Change screen timeout

Tap on Screen timeout to see options for how long you want the screen to remain on during periods of inactivity. This ranges from 15 seconds to 10 minutes. Choose your time. This should prevent ill-timed blackouts.



How do you use Chromecast?

"I'm thinking of buying a Chromecast, but how difficult is it to set up?"

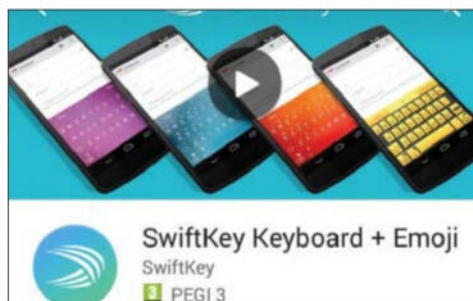
Anna Kerslaw via email

+ Google's Chromecast enables you to stream content from the web or your phone to your TV, giving you the flexibility of on-demand with a big screen. It only costs £30 so it's much cheaper than buying a smart TV purely for watching Netflix and HBO Go. It's very easy to set up as well, so even if you're not technically minded, this should be straightforward. Plug the device into the back of your TV and switch the TV on. If it doesn't automatically acknowledge it, head into the TV's settings to select HDMI input. The next step is to download the Chromecast app via the Google Play store. When you activate the app, it will try and find your Chromecast. When it does, just follow the instructions on the screen to configure it to your phone. Enter your home's Wi-Fi details and you should now be synced up and ready to go. Launch a supported video streaming app on your phone, select your video and hit the Chromecast icon. Press play and you'll be able to watch online content on your TV without the expense of buying a smart TV. It shouldn't take more than five minutes to set up.

Can I change my keyboard?

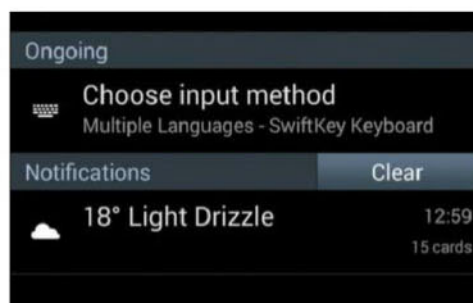
"I really don't like the keyboard on my HTC One (M8). How do I change it?"

James Drake via email



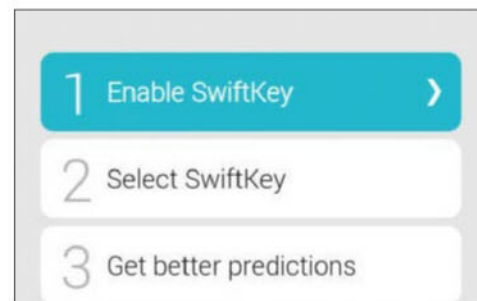
1 Download keyboard app

The stock Android and Samsung keyboards can be pretty rubbish, but luckily there are plenty of alternatives on the market. Head to the Google Play store and download a keyboard, such as SwiftKey Keyboard + Emoji or Google Handwriting Input.



3 Use your keyboard

Type away on your new keyboard to test it out. If you aren't happy with that particular keyboard, pull down on your quick settings menu. Tap on Choose input method and then select whichever keyboard you want to use.



2 Set up the keyboard

Follow the instructions on the app to set up your new keyboard. There will be several steps, but it will lead you through and it's only a matter of ticking boxes. Once you've activated it, head into your messages and check it's active.



4 Use the settings

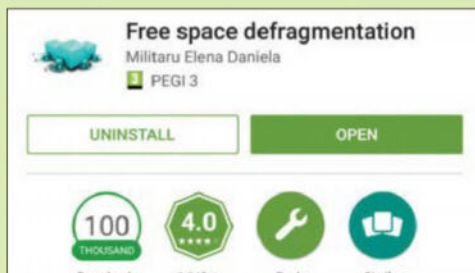
If you aren't using the keyboard, that option won't be available. Instead, head into the Settings via the quick settings menu and tap Language & Input. You should see all of your keyboard options listed, select your chosen keyboard from there.

What can I do to speed up my sluggish phone?



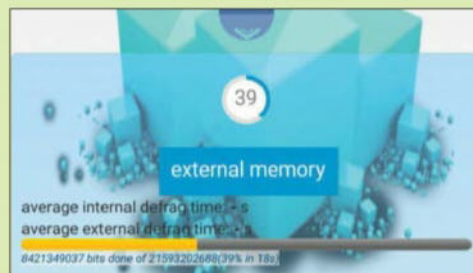
"I have RAM management issues with my Moto G. How can I sort this myself?"

Barnaby Collins via Facebook



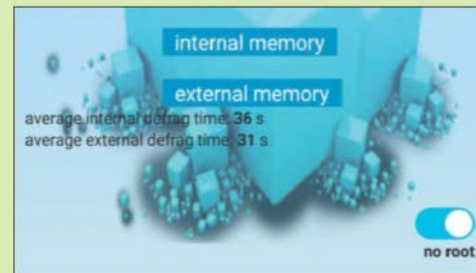
1 Defrag your phone

One major problem when using your smartphone is the fact that data can get placed in a variety of places, which makes it tricky for your phone to read data as it has to take it from lots of different areas. Download a defragging app.



2 Perform the defrag

Load up the app and you should see two options appear: one for internal defragging and one for external defragging, which will sort out the storage on your SD card. Tap on each one in turn to get your data in order.



3 Use root

If you are a power user and have rooted your phone, there is also the option to use root in your defrag. This will allow the app to delve down further into your phone and order even more of it for a faster user experience.

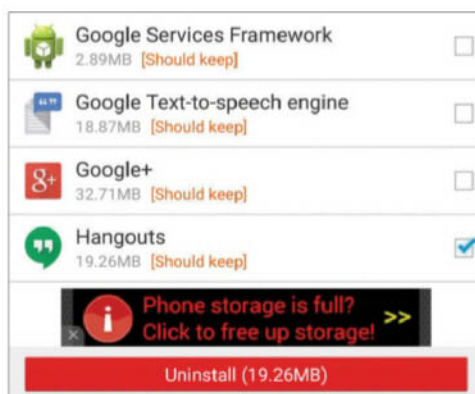
Can I delete system apps?



"I hate half of my storage being taken up by apps I don't use. How can I delete the bloatware?"

Emma Hamilton via email

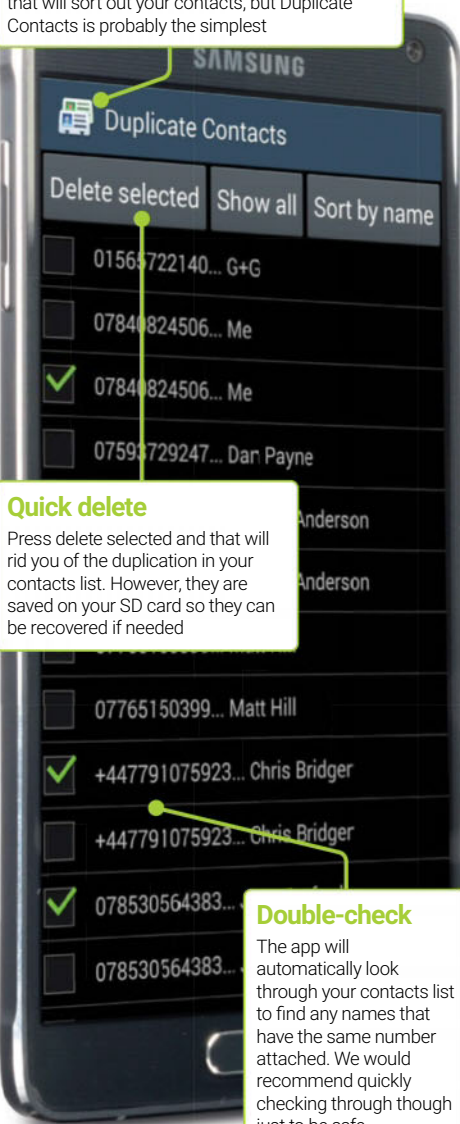
+ A big problem for many Android users, especially those that own phones from the budget end of the market, is bloatware. These preloaded apps can be a constant source of frustration because they take up valuable storage space while sitting unused in your app drawer. What makes things worse, is that there is no easy way to delete them. The only real way to get rid of these unnecessary pre-installed apps is to first root your phone. This will enable you to get deep into the developer settings of your device where you can then customise your handset to your liking. Download an app from



the Google Play store, such as System app remover (ROOT), grant superuser access and select the apps you want to get rid of. Make sure you've backed up your phone before doing any of this, because there is always the slight risk when altering your rooted phone.

Download Duplicate Contacts

There are several apps on the Google Play store that will sort out your contacts, but Duplicate Contacts is probably the simplest



Quick delete

Press delete selected and that will rid you of the duplication in your contacts list. However, they are saved on your SD card so they can be recovered if needed

Double-check

The app will automatically look through your contacts list to find any names that have the same number attached. We would recommend quickly checking through though just to be safe

Is there a way to sort multiple contacts?

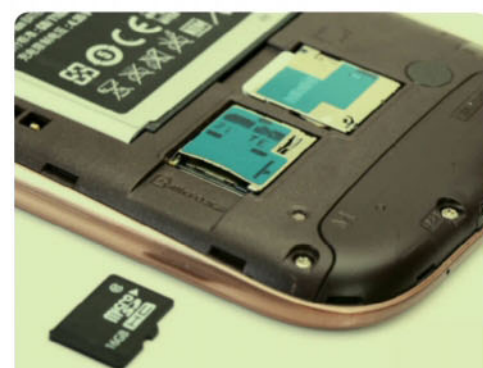
"I've got loads of people in my contacts list twice or even three times. Can I quickly delete the duplicates without trawling through them all?"

Trevor Cardon via email

+ Contacts can be easily duplicated on your phone, leading to an unnecessarily bulky contacts list. Whenever you sync your phone with your Gmail and social media accounts, those contacts get added to your list, whether they're already there or not. Also, when you switch phones or SIM cards, contacts that are saved on your phone appear alongside those saved on your SIM card and vice versa. This results in that bloated contacts list that takes ages to scroll through.

Most Android phones will offer you the option to streamline your contacts list in Settings. This will be a manual action, but you should be able to speed through your list quickly as deleting the duplicated contacts is as easy as checking a box. However, should you want to delete your copied contacts without scrolling through hundreds of entries, there are a number of apps that will find them and delete them on your behalf.

One other way to get rid of duplicated contacts is to unlink your Google account from your contacts list. You'll still be able to use all of your normal Google services, but your contacts list will purely be for phone numbers, not for email addresses and the other data that syncing with Google provides.



Five ways to avoid storage issues

Get an SD card

The easiest way to up your storage capacity is to buy an SD card. These can add dozens of gigabytes of storage to your mobile and can be bought fairly cheaply online. This should suit all but the most ardent power user.

Purge your pics

Every now and again, have a little delete-spree. You probably take loads of photos without realising it, especially now Burst mode is on lots of phones, so see which ones can be deleted. Remember that videos will also gobble up your storage capacity.

Universal export

If you don't want to delete your data, the best option may be to export it, either to Dropbox or to your laptop's hard drive. This will clear a lot of space on your phone and this way you won't lose any of your important files.

Head in the cloud

If you do quite a lot of work on your phone or tablet, it may be wise to save all of your files straight to the cloud or to a Google Drive account. This will save space on your mobile as well as then being available on any other synced device at your convenience.

Clear data

Every time you use an app, some data is cached. This is generally useful as it means that it will load up more quickly next time you open it, but each piece of cached data will eat away at your phone's storage. Delete cached data and you should free up some space.

TIP

How do I find my cached data?

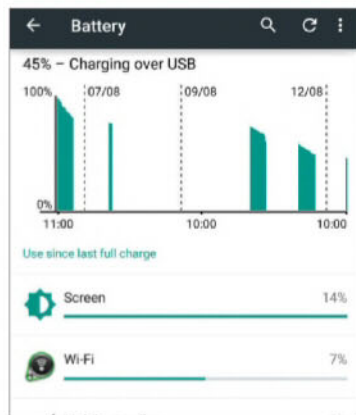
Head into Settings> Apps and then select an app from the list that appears. This will bring up all the data relating to that app, including the amount of cached data. Tap on Clear data to delete it.

How do I manage my battery life?

"Should I wait until my battery is nearly zero before recharging it?"

Ben Sanderson via email

+ Ah, the old battery conundrum. For a long time people thought it was best to let their battery wind down as close to zero as possible before charging it back up. This is mainly because it was believed that a battery 'remembers' where it started getting charged from and takes that as its new zero per cent. However, it's now generally accepted that you should try and keep your phone regularly topped up throughout the day, keeping it between 50 and 80 per cent as much as possible. Around once a month you should drain it right down to calibrate the battery, but in general you want to keep it as far away from the red line as possible. Regular mini charges will



not only keep it from using up the limited supply of charge cycles, but it will also prevent it from getting too hot when charging from 0 to 100. Heat also spoils battery life, so avoid that at all costs. Also, it means you're unlikely to run out of juice for when you really need it!

TIP

Which apps support video and audio codec?

One of the more popular options is VLC, but even that is limited. We've got VitalPlayer running on our handsets, which supports most codecs, so give that one a try. If not, Archos Player could be another alternative option.

How do I improve my launcher?

"My launcher is so heavy it takes ages to load up. How can I speed it up?"

Teuchter Loon via Facebook

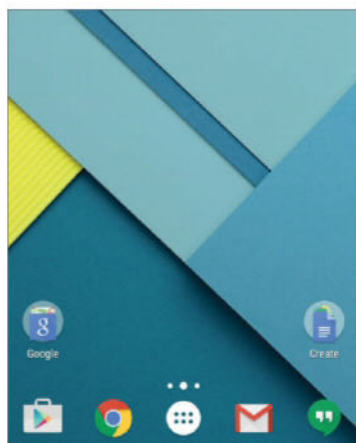
+ We're afraid there's not a lot you can do to reduce the size of your launcher as it comes in its own package. If you've got a rooted phone and want to delete some launch apps, then that could

save you some time and space. But the best solution will almost certainly be downloading an alternative launcher and running that instead. We imagine you're currently running something like TouchWiz or Sense, which do take a fair while to boot up. So one of a number of alternative launchers from the Google Play store should be enough to do the business.

Our favourite launcher is almost certainly Nova Launcher. This is a super lightweight and basic launcher that should comfortably load quicker than whatever standard launcher you're running at the moment.

The Apex Launcher is another excellent option that will enable you to have up to nine homescreens. It's also a smooth operator.

It's a shame that you can't really customise the stock launchers, beyond adding and removing widgets, but it is lucky that there are plenty of alternatives out there for you to choose from.



Why can't I delete apps?

"I keep trying to delete apps off my Samsung Galaxy S3, but they won't go. Why not?"

Irene Redfern via email

+ There can be a number of reasons why an app you're trying to get rid of refuses to go. The most common reason will be that it is a pre-installed app that your phone won't let you get rid of. The solution to this can be found on the previous page.

However, any third party app that you've downloaded can be deleted, so it might just be a question of how you're deleting the app. If you're tapping the app, holding and

dragging it to Remove, this is only going to delete the widget on the screen. It's the same situation when trying to press and hold straight



from the app drawer. Remove is simply not going to do the business here. What you need to do is press the menu button, select Uninstall and then press the minus sign in the corner of the app icon. If you are running Lollipop, however, you can just press and hold from the app store. Meanwhile the upcoming Android 6.0 update is set to let you uninstall apps from the homescreen.

Why is my camera app so slow?



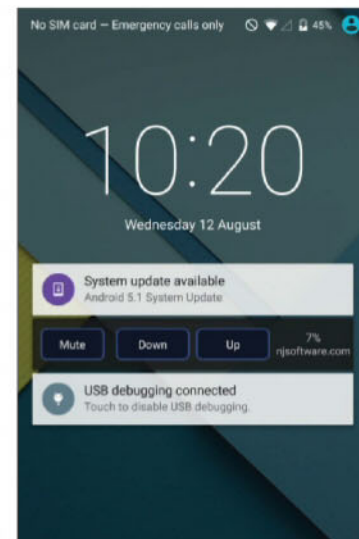
"My camera is so slow to launch. Is there any way to speed it up?" *Vinod Rajput*

+ A slow camera app is an enormously irritating thing, especially if you're rushing to capture the moment. A launcher that has a quick-start for the camera in one corner would help, as would a phone that lets you snap a quick picture with the power button, such as the Samsung Galaxy S6.

However, if you don't want to get a new phone, there are a couple of options. There are a number of lightweight camera apps that don't have bells and whistles attached, but can launch in a flash, such as Fast Camera or High-Speed Camera. These will boot up at pace so you can take that perfect shot.

The other thing you can do to speed up your camera launch time is to have it already open and all of your other apps closed. As already

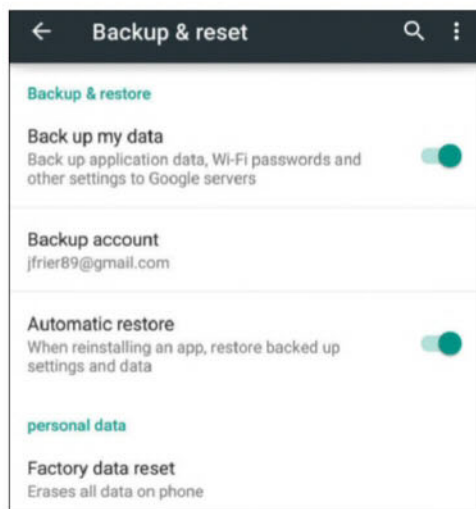
mentioned in this feature, apps build up a cache so which enables you to launch them more quickly. Keeping the app open speeds this up yet further. Closing other apps will reduce the demand on the processor, freeing up RAM that can then be put towards opening the camera app as quickly as possible.



What does a factory reset do to my phone?

"I keep seeing the phrase 'factory reset' when repairing a phone, but what does that mean?" *Simon Barnes via email*

+ Essentially a factory reset will wipe all the data from a phone and return it to the same state it was in when it left the factory, hence the name. You'll usually perform this action if your mobile is malfunctioning or you are selling it on. In the first scenario, the factory wipe will be enough because it will remove all the apps you've downloaded and any data that may be causing an issue. Bear in mind though, that this should be a last resort as you will lose absolutely everything, including contacts and messages. In the second scenario, however, your aim will be to get rid of all your data so other people can't access your various accounts and phone numbers. Unfortunately, a factory wipe isn't quite enough as hackers can still get to your data. When performing a factory reset, the phone merely designates data to be

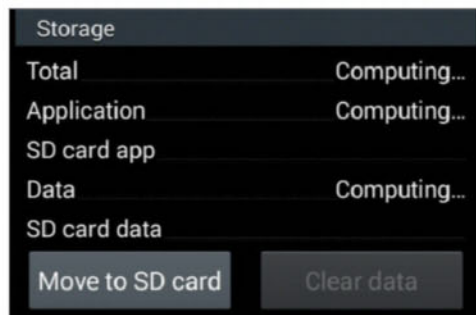
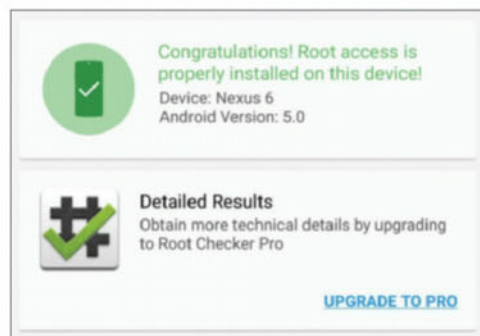


available for overwriting, rather than actually deleted. This means that hackers can extract your important data from the hard drive. So you'll need to encrypt your mobile before wiping it as this makes it incredibly hard for someone to extract any kind of meaning from your data even if they have access to it.

How safe is rooting?

"I'm slightly nervous about rooting my phone. What are the dangers?" *Lucy Delaney via email*

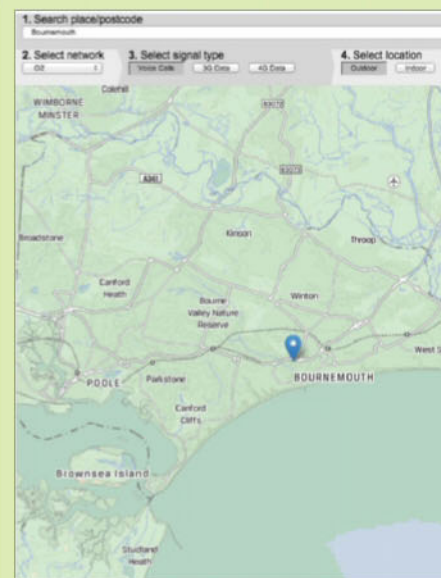
+ There are a few dangers involved with rooting. However, it's only dangerous if something goes wrong. If you follow the steps carefully and have all the correct software, it's an incredibly useful process. The biggest problem is that if you do the slightest thing wrong, your phone will become bricked, which is the Android community's word for rendering a phone so useless it's essentially a brick. The other thing to note is it will certainly invalidate your warranty, so you have no line of defence should things then go wrong. It's perfectly legal, but the manufacturer won't shell out for a replacement.



How can I move apps on to the SD card?

"I need to clear some space and heard you can move apps to the SD card, but how do you do that?" *Suresh Dunta via email*

+ SD cards are vital to the smooth running of most Android phones because it's so easy to run out of storage space. You are able to move your apps to your SD card with just a few clicks. Head into your Settings, then tap on Apps. Find the apps you want to move over, games will probably be the best option, and tap on the app name. Once you're in the app details screen, you should see the option to move the app to the SD card. Tap on that and it will shift the app and all the accompanying data across.



Can I be guaranteed good signal?

"How do I know if a house has good signal before I buy it?" *Elaine Munro via email*

+ Good signal is a tough thing to quantify. You can get great call signal in an area, but no 3G whatsoever, while someone on Vodafone can be enjoying superfast 4G speeds and someone else on EE next to them can't even load Twitter. This is because mobile signal travels in waves that are then disrupted by houses and hills, or absorbed in brickwork. Mobile phone carriers operate on different wavelengths, so those using a carrier that runs a low wavelength will get better signal indoors than someone with a high wavelength. However, those on a higher wavelength will get stronger, faster signal on the occasions that it reaches the phone.

If you're worried that an area you're going to might not get good signal, especially if you use your phone for work, you can check it out at ofcom.org.uk/mobile-coverage. Type in the area you're looking at, what kind of signal you want to check and it will tell you what kind of coverage you can expect. This will also be useful to people who are considering changing their network provider and want to make sure that they will still be able to get coverage in their home.

"Mobile signal travels in waves that are then disrupted by houses and hills"



Stagefright Explained

This killer bug puts nearly a billion Android phones at risk from hackers. Find out if your device is affected and what you can do about it

A flaw has been discovered deep inside the Android operating system. Nicknamed 'Stagefright', this vulnerability could allow hackers to infect your device via an MMS message. This means that they can gain access to your private data, and even take control of your camera and other sensors, just by knowing your phone number. To make it worse, you don't even have to open the message; as soon as you receive it, the hackers could already have invaded your handset.

Researchers at the US information security firm Zimperium discovered the bug in April. The flaw in the operating system has been present since

Android 2.2 Froyo, which launched back in 2010, so up to 950 million devices worldwide could be affected, according to Zimperium. Devices running pre-Android 4.3 Jellybean are particularly at risk.

The good news is that an attack via the Stagefright flaw has never been witnessed in the wild. In a statement, Google said: "This vulnerability was identified in a laboratory setting on older Android devices, and as far as we know, no-one has been affected." However, given the sheer number of devices that are vulnerable, there is no way to say definitively that no one has been attacked via the Stagefright bug. The bug is also

public knowledge now, so even if it wasn't before, it is now ripe for exploitation.

This August, Google announced a security patch for the Stagefright bug, but millions of devices currently remain unprotected because manufacturers and mobile operators have to distribute updates to customers themselves, and not every customer updates their device regularly.

Read on to find out how the Stagefright bug works, how to find out if your device is vulnerable, whether your device is eligible for Android's 'biggest update ever' to fix the flaw and what else you can do to protect yourself if it's not.

How Stagefright works

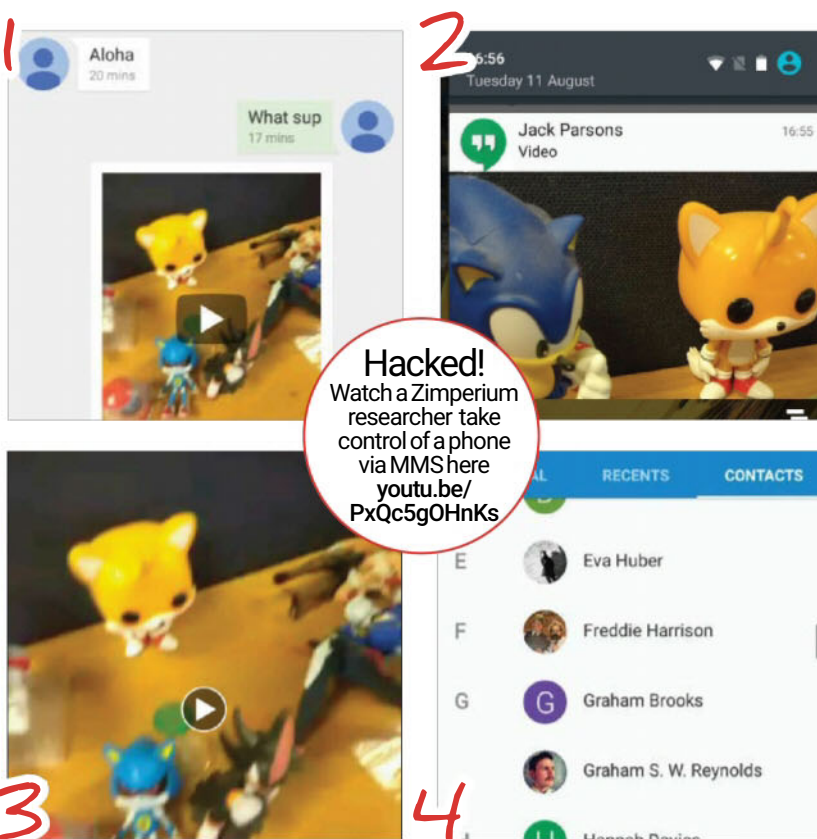
A behind the scenes look at how hackers can exploit your Android

Hacker sends MMS

Like SMS but with videos, sounds and pictures, MMS messages were popular in the era when Nokia still ruled the world. However, while smartphone users now prefer to send images via apps like Snapchat, Android devices can still receive MMS messages. To invade your device, all a hacker has to do is send a video embedded with malicious code to your mobile number.

Wide open to attack

Even if the hacker doesn't gain instant control of your Android as soon as you receive the message, they will have lots of other opportunities. Just previewing the MMS message in your notification tray can leave you open to attack. Viewing the MMS, touching the video in your Messenger app, or rotating the screen to view the video horizontally, also triggers the vulnerability over and over again.



Automatic infection

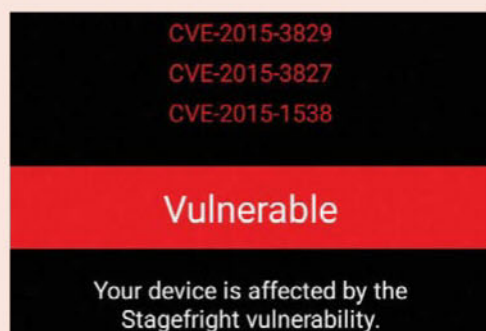
The Stagefright bug is named after the open source media library 95 per cent of Android devices use. The Stagefright library helps phones unpack multimedia content, but contains vulnerabilities hackers can exploit. To make it worse, your Android processes videos automatically, so you don't even have to open the MMS for the hacker to gain entry to your device.

Rinse and repeat

Once inside, the hacker can access your phone's data, photos, camera and microphone. If they're smart, the hacker can even delete the bobby-trapped message from your phone before you even realise that your device has been compromised. The data they can access includes your contacts, so they can target your friends and families' devices as well, continuing the cycle.

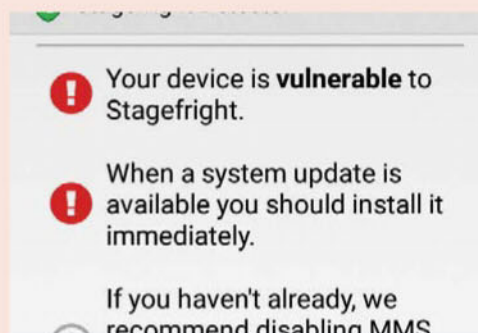
Scan for Stagefright

If you are using a phone that runs on Android 2.2 or above, you may as well assume you're at risk, but there are also several apps that can quickly tell you for sure



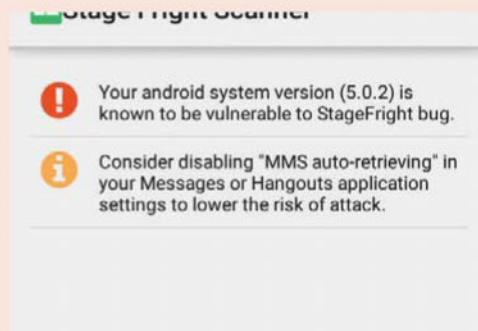
Stagefright Detector App Free

Created by Zimperium, the organisation that discovered the Stagefright bug, this app will give you a list of CVEs (common vulnerabilities and exposures) that impact your phone. If the app says you're vulnerable to Stagefright, it will also give you the option to contact Zimperium directly for advice.



Stagefright Detector Free

This Stagefright scanner has more of a polished finish than Zimperium's app. Created by Lookout, the mobile antivirus and threat protection provider, their Detector does exactly the same job, but also includes additional details on how Stagefright works and steps you can take to protect yourself.



Stagefright Scanner Free

Unlike Zimperium or Lookout's apps, Stagefright Scanner by kapware.com doesn't detect if you're susceptible to the bug, it just detects which version of Android you're running and says if you're at risk. Therefore, it doesn't take into account if you have the patch installed, so it isn't very accurate.



“The single largest software update the world has ever seen”

Google, Samsung and LG have patched Stagefright and committed monthly security updates – but many more Androids are left exposed

The Zimperium security analyst that discovered Stagefright, Joshua Drake, revealed the flaw to the public in mid-July. But not before giving Google several months to write a security patch. This is normal practice in the computer security industry, so as to protect users and not to tip-off hackers. However, industry members also have a social responsibility to disclose vulnerabilities if they think the threat is great enough and the software vendor isn't doing enough to fix it.

Fortunately, this wasn't the case. Speaking to NPR on 27 July, Drake said of when he contacted Google in April: “Within 48 hours I had an email [from Google] telling me that they had accepted all of the patches I sent them, which was great.”

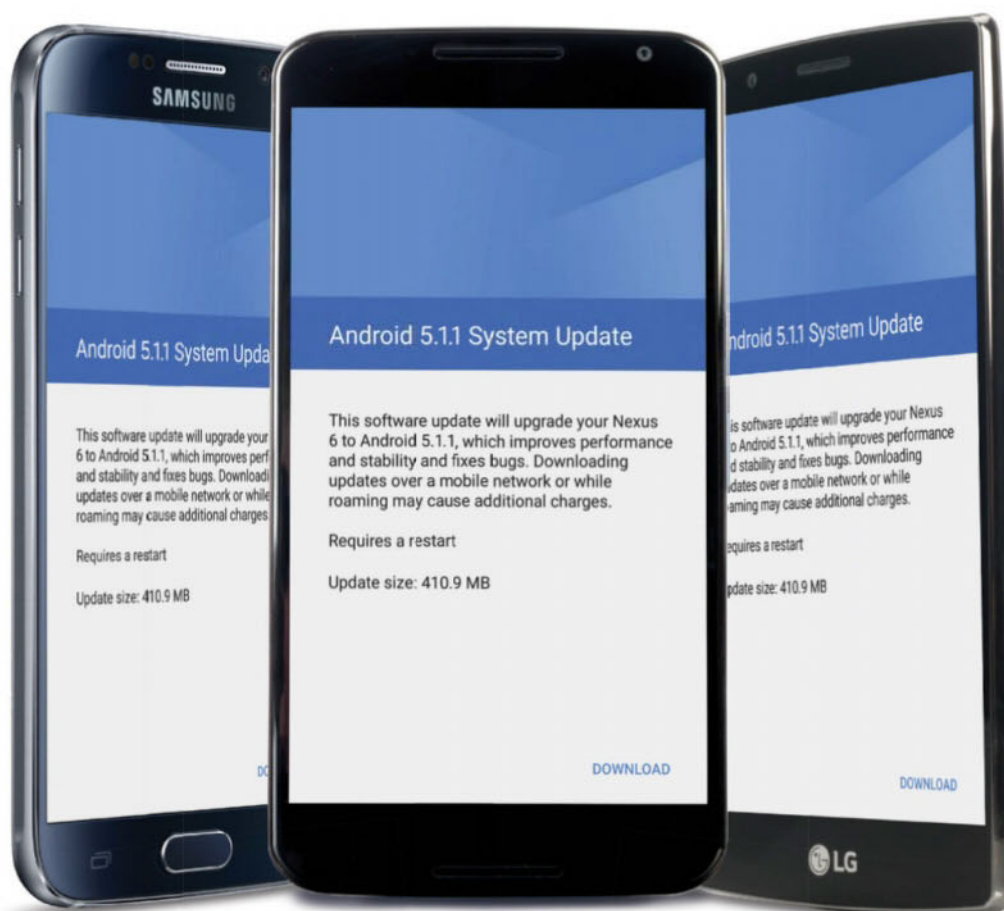
So why did the tech giant have to wait until August to make the patch available? Of course, there was some internal beta testing to ensure the bug was completely fixed, but the larger problem was getting the patch through manufacturers and phone carriers, this was complicated and difficult.

However, Google managed to surprise everyone who remembered the slow rollout of Android Lollipop. A patch wasn't just announced for Nexus devices, but Adrian Ludwig, Android's lead engineer for security, confirmed Samsung, Motorola, HTC, LG and Sony would push out patches too.

“My guess is that this is the single largest software update the world has ever seen,” said Adrian Ludwig, making the announcement at the Black Hat hacking conference. “Hundreds of millions of devices are going to be updated in the next few days. It's incredible.”

In addition, Google, Samsung and LG have committed to monthly security updates to ensure vulnerabilities in Android are fixed faster. “Since software is constantly exploited in new ways, developing a fast response process to deliver security patches to our devices is critical to keep them protected,” said Dong Jin Koh, EVP of Samsung Electronics, Mobile R&D Office. “We believe that this new process will vastly improve the security of our devices and will aim to provide the best mobile experience possible for our users.”

Nexus devices will continue to receive major updates for at least two years and security patches for the longer of three years from initial availability or 18 months from last sale of the device via the Google Store. At the time of writing, Samsung and LG were yet to give additional details about how and when the monthly updates will begin and for how long they will last.



“This new process will vastly improve the security of our devices”

While the Nexus patch was made available the same day, updates to Android's most popular phones, including the Samsung Galaxy S6, HTC One M9, and LG G4, were rolled out throughout August at unprecedented speed. However, while lower-end manufacturer Alcatel OneTouch have said they will patch their brand-new Idol 3 and Motorola have committed to patching even it's budget Moto E handset, the rest of the patches announced at time of writing only applied to flagship devices. There has been no commitment to swift patching for older models, which Zimperium claims are at even greater risk to being exploited via Stagefright.

How to install the patch

While it's referred to as a 'security patch,' your phone won't interpret it any differently from an ordinary system update. To install it, go to Settings and select System > About phone. In the new menu screen, tap System updates and then tap Check for update. Alternatively, if you would prefer to sideload the update to your Nexus yourself, rather than wait for the over-the-air update, the build name is LMY48I.

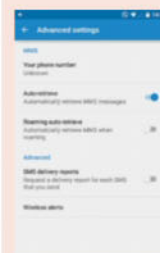
When is your Android being patched?

NAME OF DEVICE	VULNERABLE	IS THERE A PATCH?
Nexus 10	Yes	Patch available
Nexus 9	Yes	Patch available
Nexus 6	Yes	Patch available
Nexus 5	Yes	Patch available
Nexus 4	Yes	Patch available
Nexus Player	Yes	Patch available
Moto X Style	No	Patch available
Moto X Play	No	Patch available
Moto X (2nd gen)	Yes	Patch available
Moto X (1st gen)	Yes	Patch available
Moto G (3rd gen)	Yes	Patch available
Moto G (2nd gen)	Yes	Patch available
Moto G (1st gen)	Yes	Patch available
Moto E (2nd gen)	Yes	Patch available
Moto E (1st gen)	Yes	Patch available
HTC One M9	Yes	Patch available
HTC One (M8)	Yes	Patch available
HTC One M7	Yes	Patch available
HTC Desire range	Yes	Unknown
LG G4	Yes	Patch available
LG G3	Yes	Patch available
LG G2	Yes	Patch available
LG G Flex 2	Yes	Unknown
LG G Flex	Yes	Unknown
LG G4c	Yes	Unknown
LG Spirit 4G	Yes	Unknown
LG Leon 4G	Yes	Unknown
LG G3 S	Yes	Unknown
LG G2 mini	Yes	Unknown
Sony Xperia Z4	Yes	Patch available
Sony Xperia Z3	Yes	Patch available
Sony Xperia Z3 Compact	Yes	Patch available
Xperia Xperia Z2	Yes	Patch available
Sony Xperia M4 Aqua	Yes	Unknown
Sony Xperia M2 Aqua	Yes	Unknown
Sony Xperia E4g	Yes	Unknown
Sony Xperia E3	Yes	Unknown
Sony Xperia T3	Yes	Unknown
Alcatel OneTouch Idol 3	Yes	Patch available
Amazon Fire Phone	Yes	Unknown
Huawei P8	Yes	Unknown

Here's what else you can do...

While a security patch is the only way to fix the Stagefright bug, there are a few other defensive measures that you can take

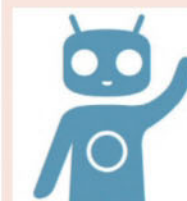
Disable auto-fetching



While you can't stop your phone from receiving MMS messages, you can stop your phone from automatically downloading video and giving hackers easy access to your data. In Google's stock Messenger app, go to

Settings > Advanced and toggle Auto-retrieve to Off. In Hangouts, go to Settings > SMS and untick Auto retrieve MMS from the list of options.

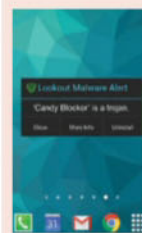
Install CyanogenMod



If your phone is not due to be patched for a long time, or the manufacturer hasn't announced any update plans at all, one alternative to consider

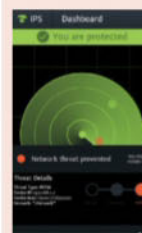
is installing CyanogenMod. This popular ROM has already fixed the Stagefright bug, but just make sure you're running CM12.0 or 12.1 nightlies. However, to install CyanogenMod you will need to root your Android.

Install antivirus apps



While Lookout make a point of saying they can't patch the Stagefright bug, the mobile security and theft protection service do recommend antivirus software. This way, services such as Lookout will alert you when they detect any malware sent via MMS. Lookout is free to download and includes a two-week free trial, but costs £19.99 a month after that.

Get zIPS Protection



Zimperium, the company that discovered the Stagefright flaws, were quick to patch their cyber-protection software, called zIPS Protection.

Unfortunately, their suite of security tools is only available for businesses, rather than individual users, but if you own a company that relies on Android products and you're worried about being targeted, this is worth considering.

Curved screen

As expected, the S6 Edge+ has a dual-edge screen, in the same style as the S6 edge. The bezels are thinner on the S6 edge+, however, so you'll be able to access your contacts and apps with either hand that little bit easier

Sharp display

Both handsets boast a QHD super AMOLED 1440 x 2560 screen. As the screens are bigger than in the S6, at 5.7-inch the resolution is slightly lower at 518ppi, but still incredibly sharp and you're unlikely to notice much, if any, difference

Fast wireless charging

You can juice up either the S6 Edge+ or Note 5 in a third of the time it would normally take to charge a phone of this size. Both devices can fully charge in just two hours

Extra colour

The S6 launched in five different colours, but the S6 Edge+ will only have four colour options. The familiar Black Sapphire, White Pearl and Gold Platinum Samsungs will be on the market, as will an all-new colour, Silver Titanium. Sadly, there is no blue option available this time

Tall and thin

The Galaxy S6 Edge+ holds all the aces in the design department. It is 1.2mm taller, 0.3mm narrower and 0.7mm wider, as well as being 18g lighter than the Note 5. This is partly due to the extra weight brought to the Note 5 by the S Pen

S Pen style

The Note 5's S Pen has been improved. It is now more accurate and more responsive. However, the most exciting feature is that you can now write on your Note 5 without having to first turn on the screen, so you can take a quick note without hassle

Take better selfies

Although the rear camera has remained the same on the Note 5, the front-facing camera has been upgraded from 3.7MP to 5MP, bringing it in-line with the cameras on the Galaxy S series

S6 EDGE+ VS NOTE 5

Note-able speed

The 4GB RAM in both devices is the most there has ever been in a Samsung phone, so you should be able to comfortably multi-task, play games and videos with no fuss whatsoever.

Battery blunder

The battery in the Note 5 has dropped from 3,220mAh to 3,000mAh. This has helped to make it nearly one millimetre thinner and five grams lighter. However, the fast charging should help to balance out the slightly shorter battery life

No expansion

The all-metal body has not only sealed in the battery, but it has also taken away SD card support for the Note 5, a first departure for this range. To try to compensate for this, the Note 5 has 32GB and 64GB models available

Samsung's brand new phablets go head-to-head as we delve into their specs and weigh up their new features

Samsung has gone big in the phablet wars, launching not one, but two of its biggest ever phones. The Galaxy S6 Edge+ and Galaxy Note 5 both boast a raft of flagship features, including 4GB RAM, quad HD super AMOLED screens, octa-core processors and the ability to shoot 4K videos. The specifications in the two phones are actually identical, but the S6 Edge+ arguably has the sleeker design as it's taller, thinner, lighter and has a dual edge curved screen. Not only does it look good, but this curve can also be used as a dock for your must-used apps and a method to quick launch your favourite contacts. In contrast, the Note 5's biggest upgrade is its S Pen stylus, which you can now use to take notes even when the phablet's screen is turned off.

However, both phones also have disappointingly small 3,000mAh batteries. Samsung has been keen to stress that they while the batteries are non-removeable, the two devices offer fast, wireless charging, which they claim can charge either phone from empty to full power in just two hours. Samsung's complete adoption of the all-metal frame also means neither the Edge S6+ or Note 5 support an SD card to expand their memories, though both offer a minimum of 32GB built-in. Read on to find out how Samsung's next-gen phablets compare to their predecessors and what other new features they have to offer.

Phablet face-off

While the S6 Edge+ and Note 5 have very similar specs, read on to find out how they compare to their predecessors and if the upgrade is worth it

Samsung Galaxy S6 Edge

VS

Samsung Galaxy S6 Edge+

» Processor	Exynos 7420 1.5GHz quad-core & 2.1GHz quad-core
» Memory	32GB, 64GB, 128GB
» RAM	3GB RAM
» Dimensions	142.1 x 70.1 x 7.0mm
» Weight	132g
» Display size	5.1-inch
» Display resolution	2560 x 1440 (577ppi)
» Front camera	5MP
» Rear camera	16MP
» Battery	2,600mAh



Despite only having a matter of months to upgrade from the S6 edge, the S6 Edge+ is much better. The RAM increase will make it a much smoother handset and you'll get a bit more juice from the larger battery. The screen has slightly fewer pixels per inch, but the drop will barely be noticeable.



» Processor	Exynos 7420 1.5GHz quad-core & 2.1GHz quad-core
» Memory	32GB or 64GB (no SD card)
» RAM	4GB RAM
» Dimensions	154.4 x 75.8 x 6.9mm
» Weight	153g
» Display size	5.7-inch dual-edge
» Display resolution	2560 x 1440 (518ppi)
» Front camera	5MP
» Rear camera	16MP
» Battery	3,000mAh

Samsung Galaxy Note 4

VS

Samsung Galaxy Note 5

» Processor	Exynos 5433 1.3GHz quad-core & 1.9GHz quad-core
» Memory	32GB (microSD up to 128GB)
» RAM	3GB RAM
» Dimensions	153.5 x 78.6 x 8.5mm
» Weight	176g
» Display size	5.7-inch
» Display resolution	2560 x 1440 (515ppi)
» Front camera	3.7MP
» Rear camera	16MP
» Battery	3,220mAh



The processor in the Note 5 has been beefed up since last year, as has the RAM and front camera. However, the battery has got smaller, it has lost SD card support and there is no 128GB version. It is marginally smaller and lighter but the improvements barely outweigh the losses.



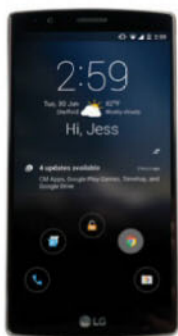
» Processor	Exynos 7420 1.5GHz quad-core & 2.1GHz quad-core
» Memory	32GB or 64GB (no SD card)
» RAM	4GB RAM
» Dimensions	153.2 x 76.1 x 7.6mm
» Weight	171g
» Display size	5.7-inch
» Display resolution	2560 x 1440 (518ppi)
» Front camera	5MP
» Rear camera	16MP
» Battery	3,000mAh

Winner

Galaxy S6 Edge+

Despite its direct predecessor only launching six months ago, Samsung has done some very good work with the S6 Edge+. The screen is bigger yet the bezels are smaller, so it can still just about be operated in one hand. The Note 5 does have both a better processor and camera than the Note 4, but has also had a year to make those improvements. The reduced battery and lack of SD card support are backward steps.

How do they compare to other flagship phablets?



LG G4

We're still huge fans of the G4 and it's probably the only one that's running close to the Samsung Galaxy range. It isn't quite as fast or as big as the Galaxy models, but it has a slightly sharper screen, a better front camera and that all-important SD card support.



HTC One M9+

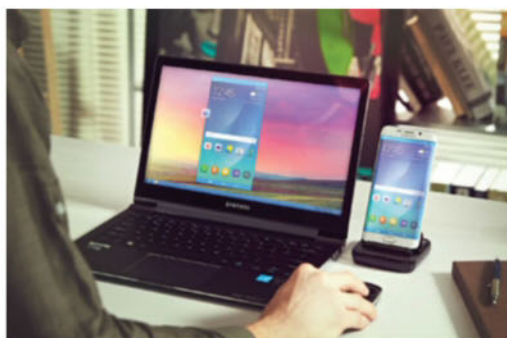
The HTC One M9+ is the flagship the M9 should have been. It sports a QHD 5.2-inch screen, which beats the Galaxies, has huge microSD support, great cameras and a snappy processor. We'd still take the Note 5 or edge+, but this is a brilliant handset.



Sony Xperia Z3+

Struggling Sony released the Z3+ a couple of months after announcing the Z4 was to be Japan-only. It has a very good specification sheet and is as stylish as Xperias always are, but it lags slightly behind its rivals in almost every area, which is a shame.

Connect to your computer



Samsung has improved the synergy between your phone, tablet and PC with SideSync 3.0. You can now hook your S6 Edge+ or Note 5 up to your PC or tablet and seamlessly operate the two of them together. SideSync

allows you to use your laptop's mouse and keyboard on your phone so you can type messages without even touching your handset. It also lets you drag and drop files from the phone to the computer as easily as copying and pasting, which will remove the need to email or Dropbox large files.

You'll need to download the app onto whichever devices you plan to use SideSync on and then you'll be able to perform a range of tasks on the bigger screen. To be able to use SideSync, you will need a minimum of Android KitKat 4.4 on your phone, Windows XP on your laptop, 500MB of hard drive space and at least 1GB RAM on your laptop or tablet. SideSync is set to really help professionals who need to switch between their computers and mobile devices regularly and don't want the hassle of manually transferring files.

S Pen stylus upgraded

The S Pen stylus is Galaxy Note range's unique selling point and it has just got even better. Now in its fifth generation, the S Pen has been made lighter but feels more solid. The most exciting move, however, is that you can now draw and write on the Note 5 with your S Pen without even having to turn on the screen. This development will let users take quick notes without having to faff around with buttons. It still saves the notes in exactly the same way as before, but it just speeds up the entire process, which could prove very useful when jotting down a phone number or address.

Air Command has also been improved as hovering over the screen brings up icons for everything you can do on the phone with your S Pen, no matter what screen you are on at the time. The stylus has just got a whole lot smarter.



Samsung Pay

Moving beyond the credit card

The battle of the mobile payment system has been kicked up a notch as Samsung Pay gets rolled out for the first time. Samsung CEO, JK Shin, has said that users should be able to use their mobiles to pay for goods at nearly every merchant location where you can swipe a credit or debit card. This is because it uses the same technology that most cards do. The major development for Samsung Pay is that it also supports store cards and membership cards, so you needn't carry a load of cards around with you as anything that can be swiped should work when loaded onto the phone.

This is the first time a payment system will support anything other than the standard credit and debit cards. So Samsung have scored a major coup here in the great battle between it, Android Pay and Apple Pay.

Pay up
Samsung Pay is already active in South Korea and it will come to the USA on 28 September. Samsung have also said they plan to extend it to the UK, Spain and China in the future.



Pay with your mobile phone at pretty much any merchant location

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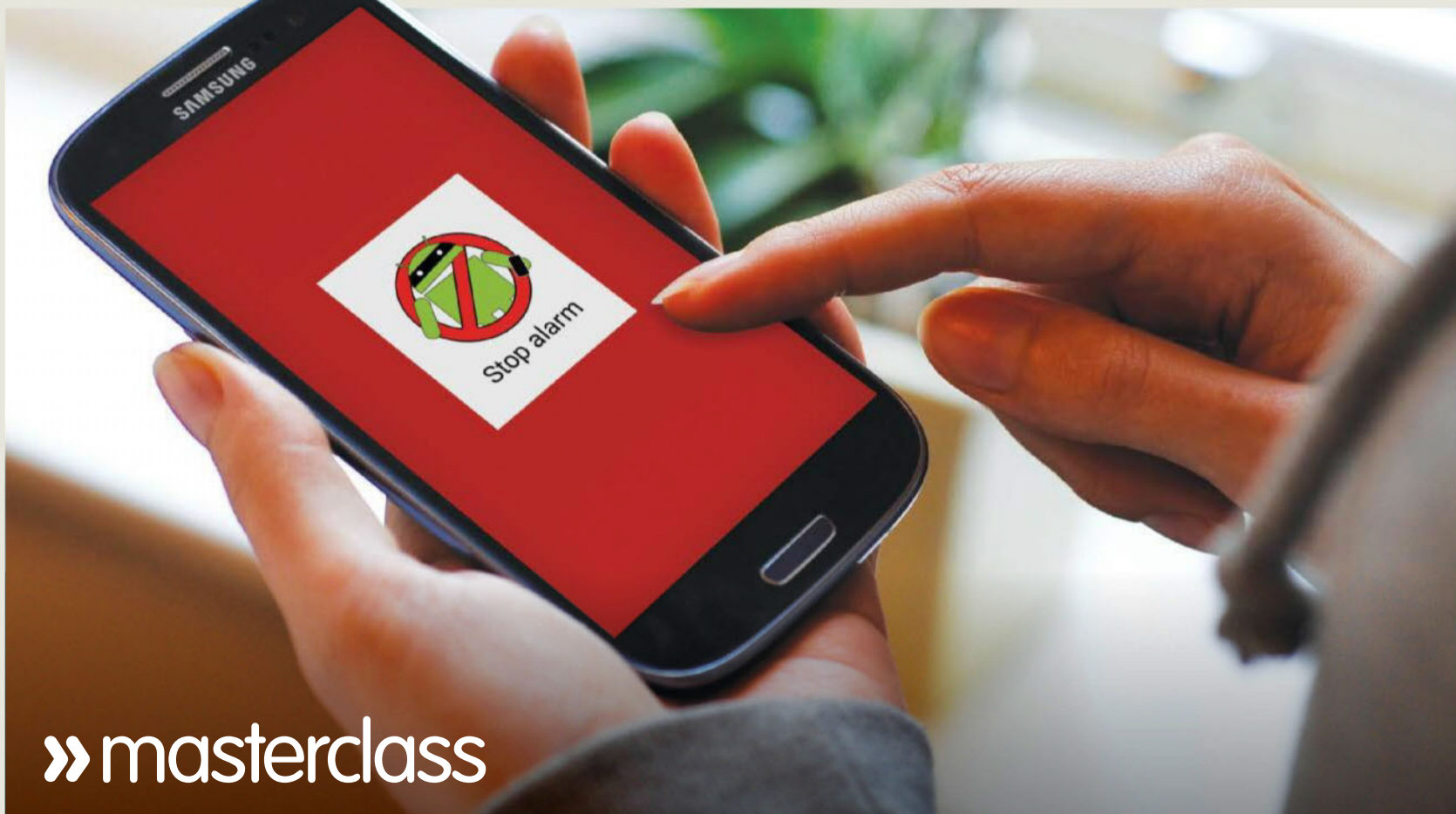


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» masterclass

Stop Thief!

Keep your phone and data safe from burglars

With mobile phone theft at an all time high, security is a subject that nobody can ignore. Common sense measures like not leaving your phone or tablet unattended will go a long way, but that's just a start. We'll look at Android features, third party apps and products that will make your devices harder to steal or, if the worst does happen, improve your chances of getting it back.

The risk of theft doesn't end with the loss of your device. Increasingly, the data on your phone is more valuable than the handset itself. Your photos have sentimental value, but if a thief gets hold of your emails or any spreadsheets relating to finance, the consequences are worrying. So we'll also look at ensuring your personal data doesn't fall into the wrong hands.

Hardware anti-theft solutions Apps are great, but accessories can help keep your phone physical secure

Mark Gear Invisibly

SmartWater (smartwater.com) mark gear with an invisible liquid, detectable in UV light. Each batch is unique so the police can find who the stolen objects belong to.



Lock It Down

Laptops have slots for security cables to fasten them to immovable objects. Phones and tablets don't have slots, but Maclocks (maclocks.co.uk) sell add-ons.



A Proximity Alarm

The Kensington Proximo Key Fob (kensington.com) contacts your phone via Bluetooth. If your phone is separated, an alarm sounds. Only works with Samsung Galaxy phones.



Top tips to keep your Android safe

1. Don't advertise to a thief

It doesn't take long to take a phone out of your pocket if a call or text comes in, so don't keep it always in your hand in full view to a potential thief when you're walking down the street.

2. Pick more than one

Here we look at several ways of protecting your phone and data, but you don't have to pick just one. Use several methods to foil a burglar, certainly include at least one to protect your hardware and another for your data.

3. Take a picture of your thief

Although Android has a built-in Device Manager to track down a stolen phone, third party apps like Prey do much more. With this app, for example, you can grab a photo of whoever is using your missing phone.

4. Report it stolen

If your phone is on a contract, report it stolen as soon as you notice it's missing, otherwise a burglar could rack up a huge bill in calls for which you'd be liable. Keep a contact number for your network at hand for this purpose.

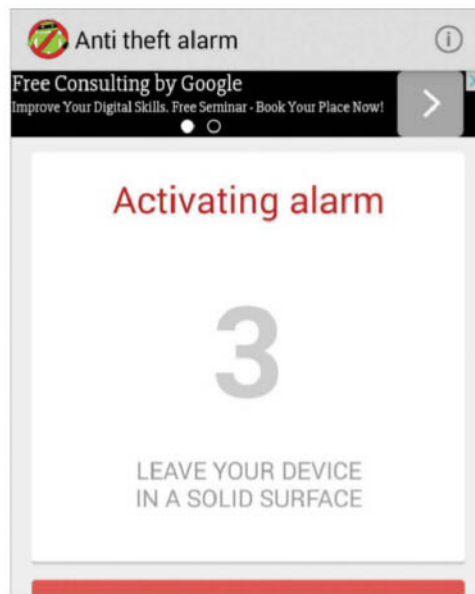
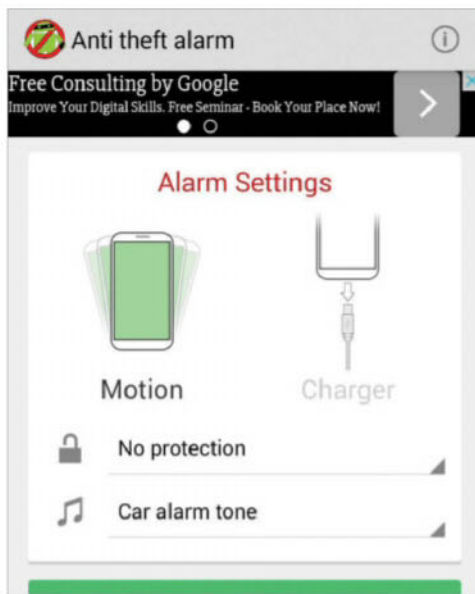
5. Insurance

Make sure your phone is insured. Check up whether your devices are covered on your household policy when they're out of the house and, if not, consider a policy specifically for mobile devices.

Sound the alarm

Set off a siren if someone picks up your device

We're used to car alarms that sound if a vehicle is tampered with and the very same is available for Android devices. This way you can protect your phone when you're out and about, without having to watch it like a hawk at all times.

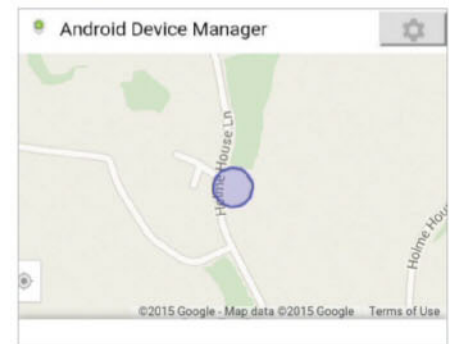


Android's built-in Device Manager can help you find a lost phone

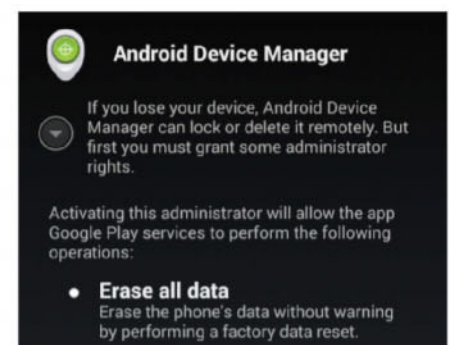
Master Device Manager



1 By default, location is turned on, but it won't be very accurate if it has to rely on signals from base stations. So get into the habit of keeping GPS enabled.



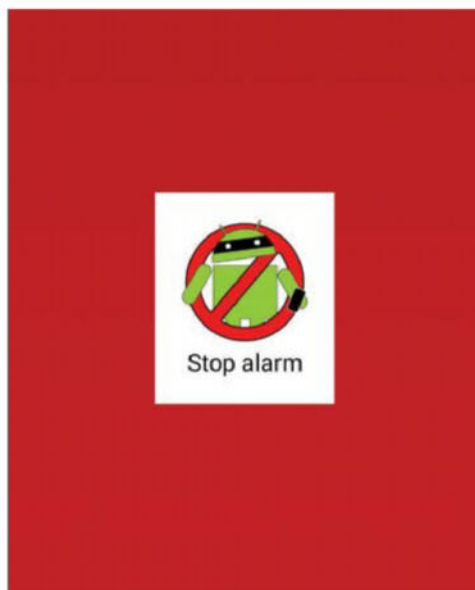
2 If your phone is stolen, go to google.co.uk/android/devicemanager and login to your Google account. Your device will be shown on a map to help you find it.



3 Android Device Manager also lets you lock your phone or wipe the data from it remotely, but only if you enable that feature from Security in the Google Settings app.

1 Get Anti Theft Alarm

Install Anti Theft Alarm and make sure you pick the one from Mmaps mobile as there are several with the same name. Without any setting up, you're ready to activate one or both of two alarm conditions.

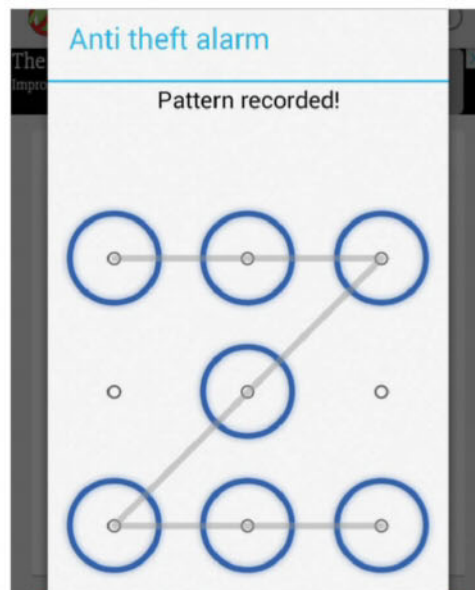


3 The charger alarm

The charger alarm sounds if the phone is unplugged from its charger. Select the charge icon and touch 'Activate alarm'. When it's unplugged, the alarm sounds unless you've disabled it first. If it sounds, touch the button to turn it off.

2 The motion alarm

To use the motion alarm, select the motion icon and touch 'Activate alarm'. A countdown starts so put your phone on a solid surface before it expires. Touch Stop Alarm before picking it up, otherwise the alarm will sound.



4 Make it more secure

Often a burglar will not hang around to try and turn off an alarm, but he might run off with your phone. Make it more secure using a PIN or pattern to silence the alarm. Touch 'No protection' and then select Pin or Pattern from the menu.

Hide your apps and keep your photos private

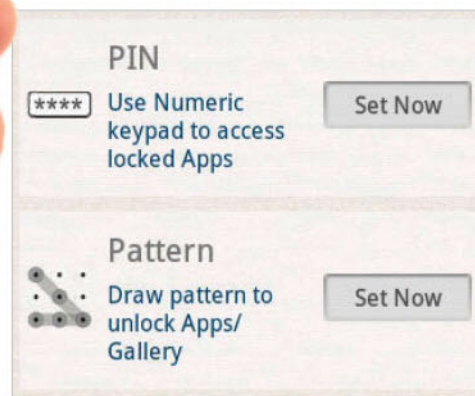
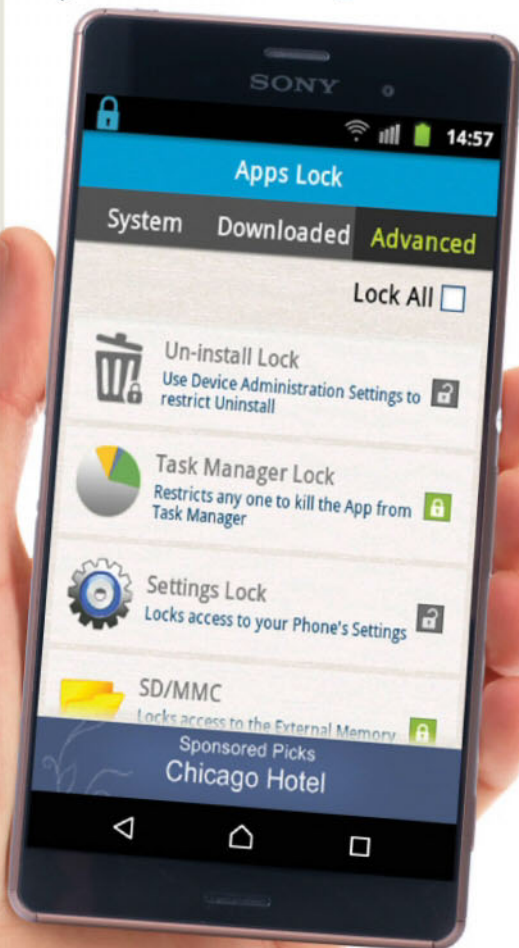
If your phone is stolen, your personal details don't have to be an open book

Over the page we'll look at encryption, but simply locking apps and hiding stuff that you want to keep secret is enough to protect sensitive information from most people.

Apps Lock and Gallery Hider enables you to choose what you want to lock or hide so that it's only available to you or to someone with

the correct password or pattern signature. It also offers encryption for photos and videos.

This handy app is useful for more than just protecting you from the aftermath of a theft. You don't have to be obsessive to keep secrets from your colleagues, friends and family. On occasions you might let them use your phone so you can't lock it entirely, but this way you decide what they have access to. And by hiding the Settings app, you can prevent your kids from playing with your phone and messing things up.

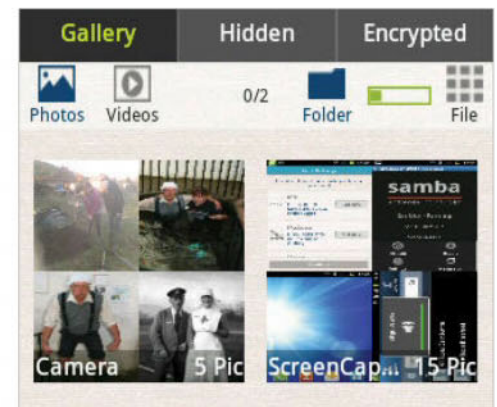
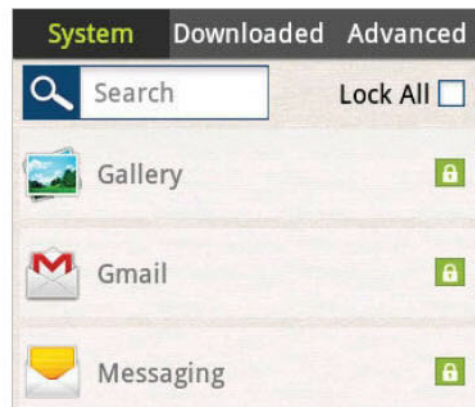
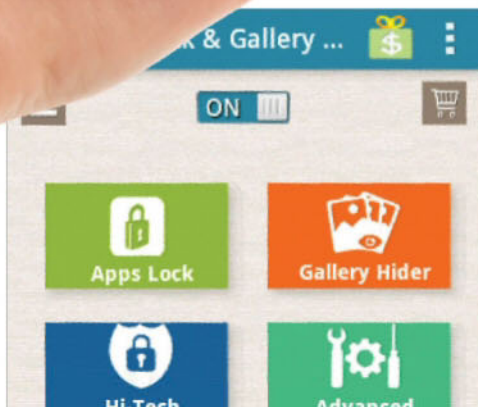


1 Install and setup

Install Apps Lock and Gallery Hider. When it first runs, it'll prompt you to create a lock profile. Choose a password, pattern or voice recognition, give the answer to a secret question and provide your email address for password recovery.

2 Configure your options

Although the app will work with the default options, you might want to configure it according to your preferences. Using the Lock Manager and Lock Control tabs, change any of the settings, for example, hiding your password as you enter it.



3 The main menu

Having setup your unlocking method and options, press back to go to the main menu. There are some additional options here that you might like to investigate later, but mostly you'll be using the Apps Lock and Gallery Hider functions.

4 Lock your apps

From the menu, select Apps Lock and agree to install Mig Central Server if asked. Some apps are locked; touch the padlock icon to lock others. When you try to run a locked app, enter your password, pattern or speak to continue.

5 Hide images or videos

From the menu, select Gallery Hider. Click Photos or Videos; choose folders or items you want to conceal before selecting Hide. To reveal them later, select the Hidden tab, then choose what you want to uncover before selecting Unhide.

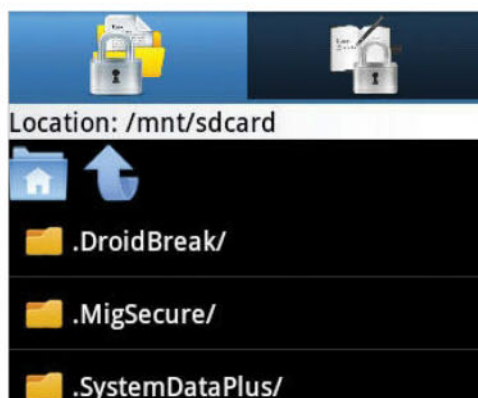
Heavy duty encryption

Not content with a basic PIN code?
Try Keep Secrets (Encrypter)

Some app lockers and photo hidiers provide a basic level of encryption. But Keep Secrets (Encrypter) goes much further so it's recommended for those documents that you really don't want to fall into the wrong hands.

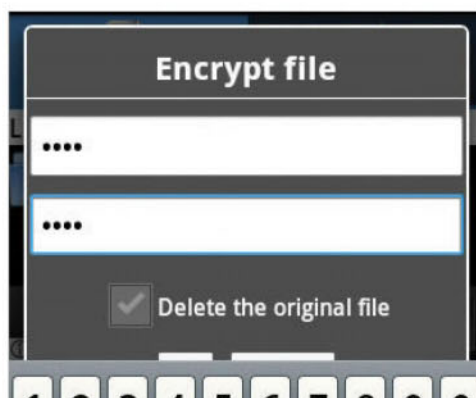
It's not just following a theft that it's useful. For a start, it allows you to encrypt files other than photos and videos. This is particularly important given that your financial information will probably be in files such as Word documents and Excel spreadsheets.

Second, it allows you to encrypt files individually, each with their own password. Be very careful though. If you forget a password, that file will be gone for good thanks to the app's highly secure encryption algorithm.



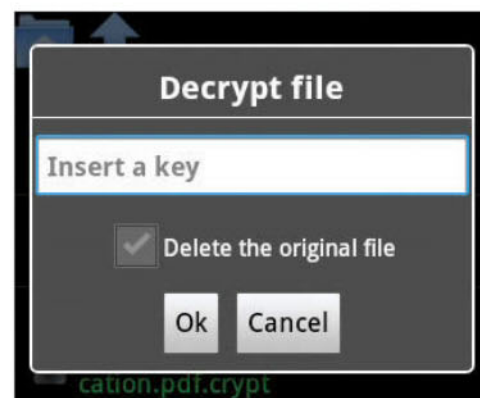
1 Navigate folders

Install and start Keep Secrets. You'll see a top-level view of your files and folders as it looked in older File Managers, such as Samsung's My Files. To look inside a folder, click on it and use the blue arrow to go up a level.



2 Encrypt a file

To encrypt a file, touch it, enter a key (i.e. password), confirm it, ensure 'Delete the original file' is selected and touch Ok. If you look at it in File Manager, you'll find its name has changed and it can't be accessed.



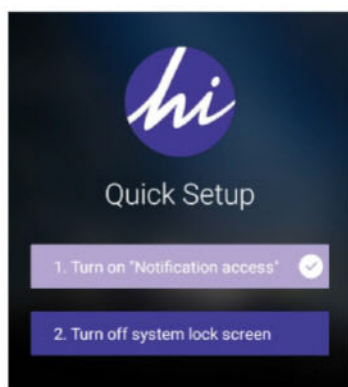
3 Decrypt a file

To decrypt a file so you can access it, find it in Keep Secrets where it will appear in green. Enter the key and it will be decrypted so you can, once again, read it normally. Don't forget to encrypt the file again afterwards.



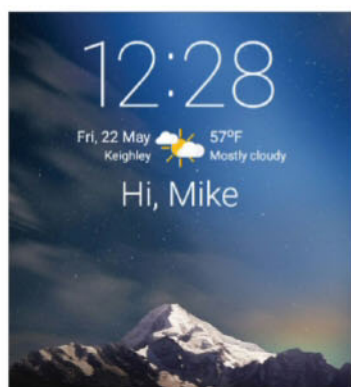
Get a new-look screen lock

Android Lollipop has a new screen lock facility – this app provides another alternative with some similar features



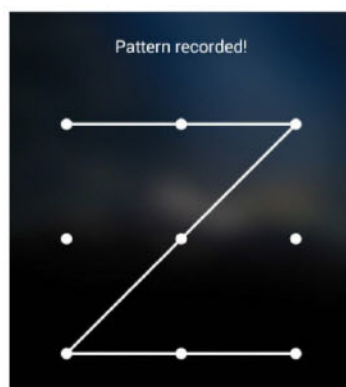
1 Set up Hi Locker

Install 'Hi Locker - Your Lock Screen' and start it up. Enter your name and allow it access to notifications. When you're taken to the screen lock options, be sure to select None so you don't end up having to unlock the screen twice.



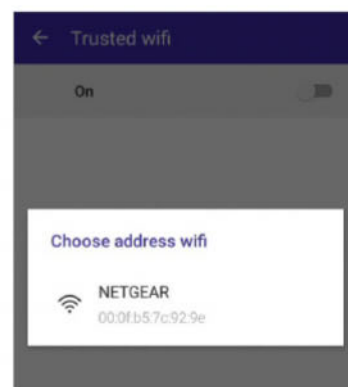
2 Welcome screen

If you do nothing more, all that will change is when using your phone following a period of inactivity, you'll see the Hi Locker welcome screen which you can dismiss by swiping the screen. That's not very secure so let's address that.



3 Add a PIN

Back in Hi Locker, select Security and choose Pattern or PIN. When prompted enter the pattern or PIN, confirming it when asked to do so. Now, once you've swiped the screen following inactivity, you'll have to enter the pattern or PIN.



4 Safe at home

If you don't want to have to unlock your phone to use it when you're safe at home, select Security and then Trusted wifi. Click on the plus sign and select your access point before turning the feature on at the top of the screen.

App used » Tiles Instagram Lock Screen **Works with** » Android 4.0 and up

Add Instagram photos to your lockscreen

Decorate your lockscreen with an ever-updating collage with Tiles Instagram Lock Screen

Access Instagram

Tapping anywhere on the screen, other than the red rectangle, padlock or camera icon, will unlock the Instagram feed. This will let you scroll through your feed without unlocking your phone, which is pretty handy. If your phone's unlocked, tapping on an image will enlarge it to fill the whole screen

Collage layout

Pressing the power button on your device, will now bring up a tiled list of the last 15 or so pictures that would normally appear on your Instagram feed. Some are miniaturised while others are large for interest and a sense of variety

Still secure

Swiping upwards will reveal your normal lockscreen underneath. This means if you normally use a PIN, password or pattern-based lockscreen, your phone security isn't compromised beyond being able to access your Instagram account without unlocking

Revert to normal

If you tap the triple-dot icon, you can access Tile's settings from the lockscreen and quickly remove the Instagram feed, reverting to it your default lockscreen.

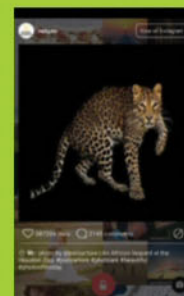
Currently no camera

While you're supposed to be able to instantly open your camera by swiping, we found this feature didn't work on any of the phone's we tried Tiles on and neither did the camera button in the bottom right. Hopefully, this bug will be fixed soon

You are now able to customise the look of your lockscreen with photos thanks to the Tiles Instagram Lock Screen app. Installing the free download will transform your standard lockscreen into a tiled feed that is based on your Instagram account. It constantly refreshes in the background, so you get a constantly changing collage of pictures to enjoy. Tiles also enables you to scroll through your Instagram feed without having to unlock your phone or open the app, and you can even Like posts! You can also further fine-tune your lockscreen by only showing certain accounts in your feed and choosing a background colour.

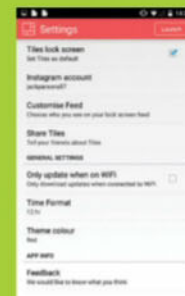
Interact with Instagram

Beyond providing a constant feed, Tiles has several other features you can use without unlocking your Android



Like and comment

Tap on an image in the feed and it will expand to fill your screen. Not only will you now have an expanded view of the picture, you will also be able to like, comment and read the captions.



Tiles settings

If you open the app, you will be greeted with a settings screen. From here, you will be able to change the colour of the theme and make it update only when you have access to Wi-Fi to save on your data allowance.



Hide unwanted posts

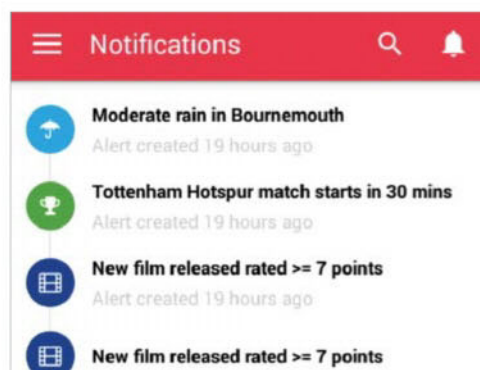
If there is someone you follow whose pictures you do not want to appear on your lockscreen for some reason, you can change this by tapping No Symbol situated to the right of your screen.

Get custom alerts with Hooks

Set up alerts for everything from sports results to the weather

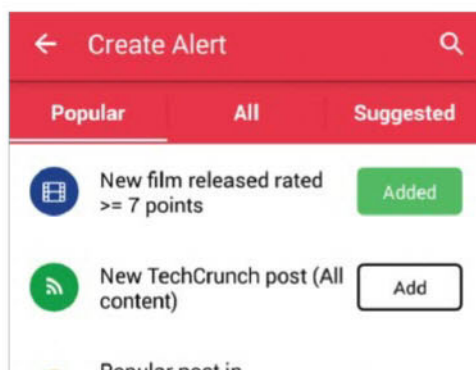
Even though services such as Google Now offer alerts, they are generally quite limited. The Hooks – Alerts For Everything app offers alerts across more than 100 topics. They are extremely customisable as you can decide whether to be alerted through push

notifications or sound alerts and how far ahead of the event you want to be told. Each category has its own range of settings, such as the weather alerts that you can alter depending on the intensity of expected rain. You can manage your alerts within the side menu, as well as selecting your favourites, such as release dates for a movies that you don't want to miss. You can also share your alerts with your friends, possibly to hint at that film you really want to watch!



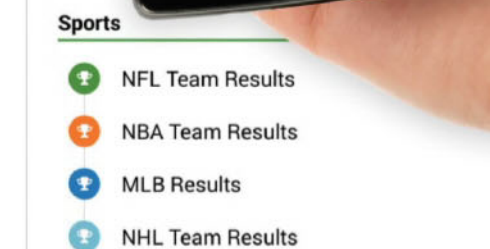
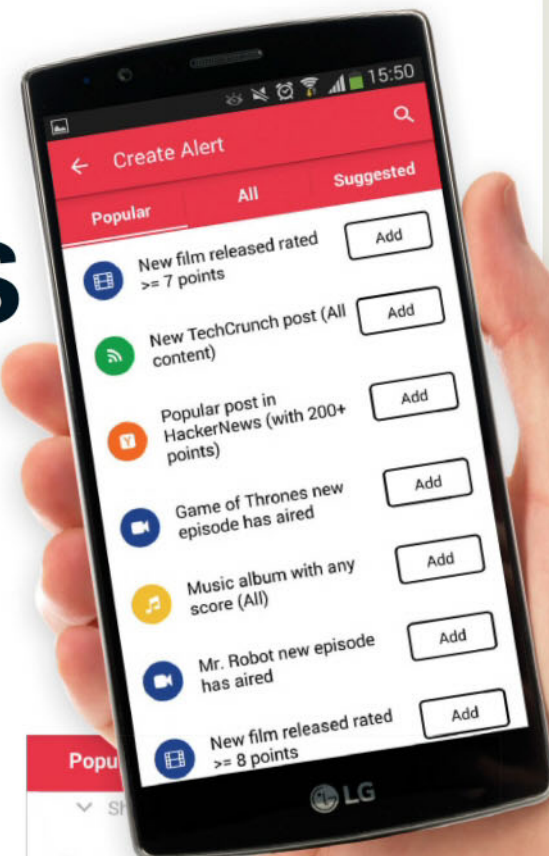
1 Get hooked

Download Hooks from the Play store and open it up. Your initial homescreen should be a blank white screen with a plus symbol inside a red circle. Tap on the icon to go to the alert screen from which point you can set up your first alerts.



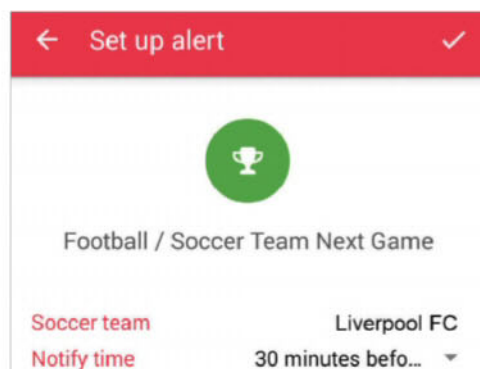
2 Add an alert

The screen shows a list of popular alerts, such as new movies. Tap on the word Add to set up that alert. You can scroll through every app with the All tab and Suggested will later be filled up with alerts related to your list.



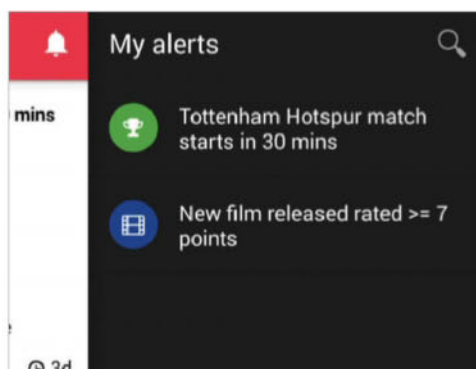
3 Find grouped alerts

Scroll down the All list of alerts to find them grouped by category. This will be a handy place to visit if you want to set up numerous alerts on a similar topic. Alternatively, you can tap the magnifying glass in the top-right corner to search.



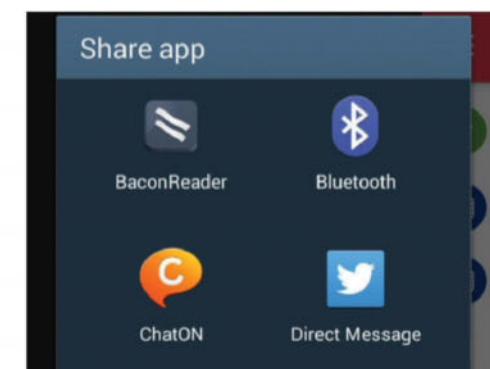
4 Personalise your alert

Tap on the alert that you have set up and it will provide a range of customisable options. Tap on the sliders to decide how you want your alert to arrive, whether as a push notification, a bleep or both. Some alerts have more options.



5 Check your alerts

Tap the bell icon in the top right-hand corner of the screen and you will be able to see your list of alerts. Tap on any one of them and to take you to that particular alert's page where you can find more information and see previous alerts.

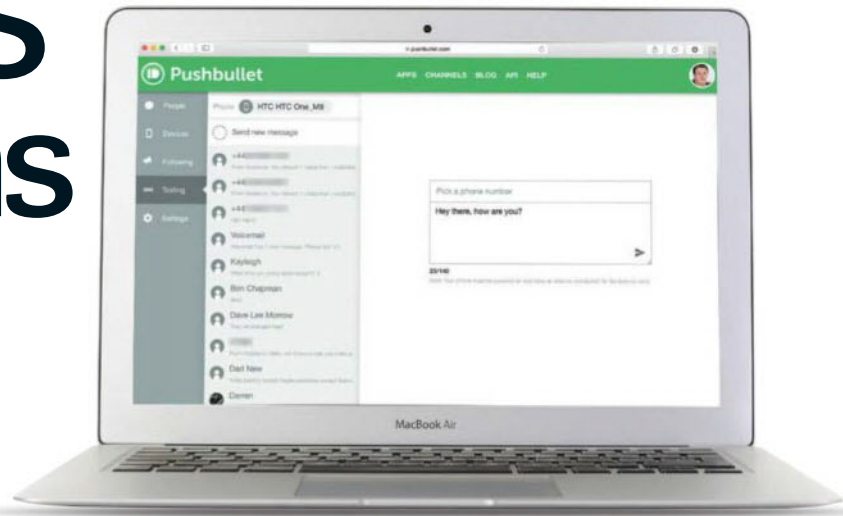


6 Share your alerts

If any alert appears that you think a friend might be interested in, you can share it via any of the social media channels, such as Facebook, Gmail and Hangouts. This should help you organise events easily with friends that don't have the app.

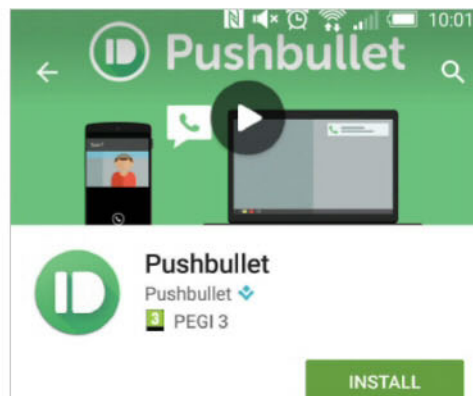
App used » Pushbullet Works with » Android 4.0 and up

Carry on SMS conversations on your computer



Use Pushbullet to check your SMS text messages without having to reach for your phone

If you've been using Android for a while, then there's a decent chance that at some point you will have come across Pushbullet. It's an app that plays around with push notifications. Now it can interact with texts, enabling you to read and reply to them from your desktop. It's a simple process to set up, and in this tutorial we will walk you through what you need to know. You will need your phone and a PC, or a Mac, to complete everything, but it shouldn't take long. The PC version of the app we use in this tutorial is in beta, but it's not essential to install it. It just makes things smoother when figuring out if you've received a text.



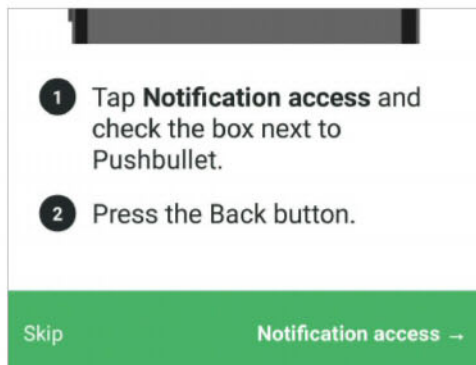
1 Install Pushbullet

We're going to start by getting your phone set up so that it will send notifications to your desktop. To get the ball rolling, you will need to head to the Google Play store and download Pushbullet. It's free and it shouldn't take very long to install on your device.



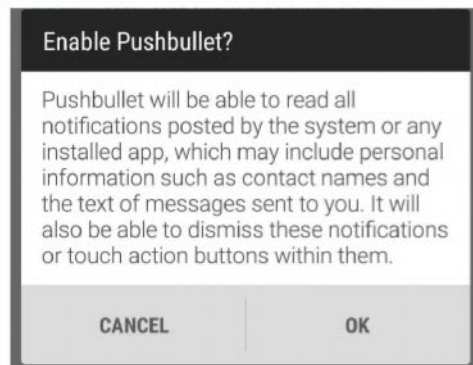
2 Follow the instructions

Once the app is installed, you'll need to sign into Pushbullet. You can do this with a Google account or a Facebook account. It doesn't really matter which you choose, we went with Google, but just make sure it's the same one you use when you sign in to your PC.



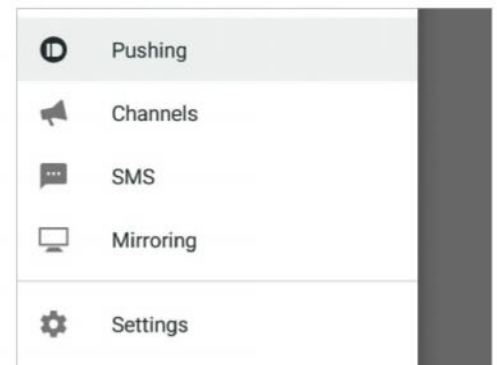
3 Use the right folder

Next, you'll need to give the app access to notifications on your phone. It's a pretty obvious step, but it enables the app to communicate across platforms and it is key to getting the whole process up and running. Tap on the Notification Access button on-screen to move on.



4 Tick the box

This will take you to a screen showing the various apps and processes that have access to the notifications on your phone. There'll probably only be a handful, but scroll down, find the Pushbullet entry and tick the box next to it. When you're done, hit the back button.



5 Change the settings

Once you have tapped through the last of the settings, you will end up on the main page of the app. You'll be told to set up your PC, but we'll come back to that in a minute. First of all, we'll finish off the settings on your phone. Tap the menu button to open up options.

1 Keep it on

Your phone has to be on if you want to access or send text messages with it.

2 Keep it connected

Your phone needs to be connected to the internet one way or another to use it.

3 Choose your apps

If you only want to get notifications on your desktop from your messaging app, then you can.

4 Have a test

There's an option in Mirroring in the settings of the app to send your computer a test notification.

5 Subscribe on the app

If you're running Pushbullet, you may as well subscribe to some interesting channels as well.

See and reply to your SMS from your computer

Sync SMS with my computer



Only while on WiFi



6 Sort the SMS

We're looking for the SMS button. Tap on that. There are only two choices available, but they're pretty important. One will turn off the service, the other will set it so you'll only sync text messages over Wi-Fi. Choose which you'd like and head back to the options menu.

Show my notifications on my PC



Only while on WiFi



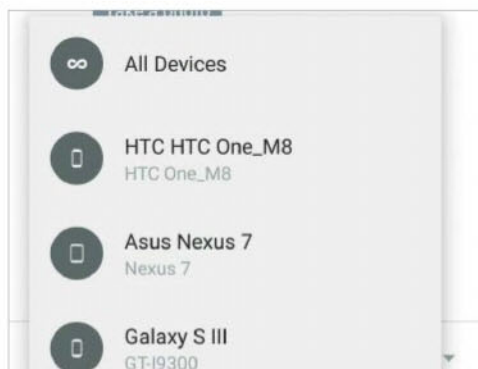
Only for some apps

Choose which apps to enable

Send a test notification

7 The next part

Now tap the Mirroring button in the options menu. There are a few more options here, but we're looking at the top two again. You'll want to make sure the 'Show my notifications on my PC' toggle is switched on, then decide whether you want to connect over mobile data or Wi-Fi.



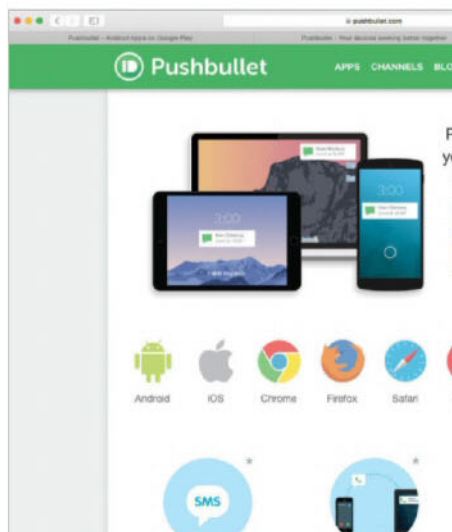
8 And you're done

That pretty much finishes off the phone part of this tutorial. Now head back to the main menu and familiarise yourself with how Pushbullet works. Then turn on your PC or Mac and get ready to tackle the second part. It's about as easy as the first part.



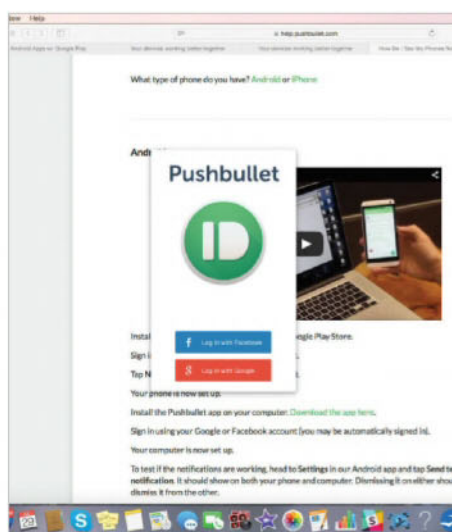
And now for the PC and Mac part

Once you've got your phone sorted, set up a Pushbullet account on your PC or Mac to complete the tutorial



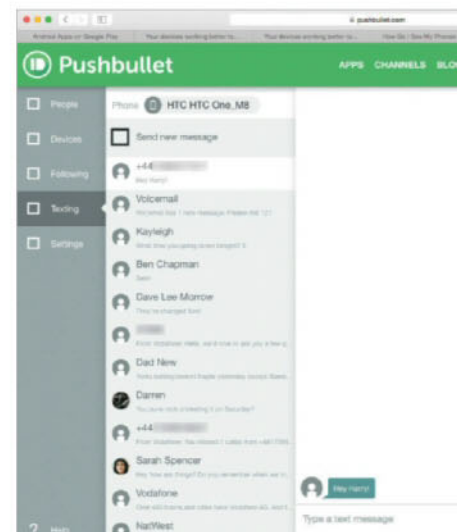
1 Go to the website

Once your PC or Mac has booted up, head over to the Pushbullet website (pushbullet.com). The first thing you'll want to do is sign in with the account you used to sign in to the app on your phone. Click on the relevant service and then just follow the instructions.



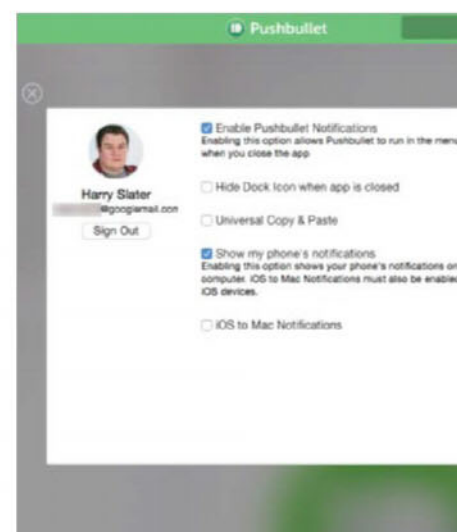
3 Take it further

If you want to take things a little further, you can install the Pushbullet app on your PC or Mac so you can receive notifications from your phone. Along the top of the desktop version are a series of buttons. Click the one marked Apps and download the relevant version.



2 That's about it

Once you're signed in, you should be able to see a texting tab on the left hand side of the screen. Click on this and you'll get access to your text messages. You can receive and reply like you would on your phone, but without having to look at your Android device.



4 Set the notifications

Once the app is installed, you'll need to make sure it's set up to send notifications to your computer. It's slightly annoying that you can't send messages from the app, but if you set it to notify you even when it's closed, then it's not too much of a problem.

App used >> Google Play/ Life 360 Family Locator/ Dinner Time Plus (Parental App) **Works with** >> Varies

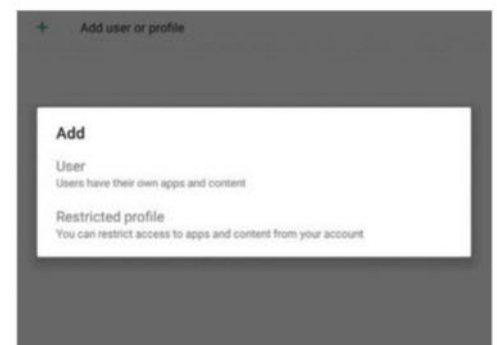
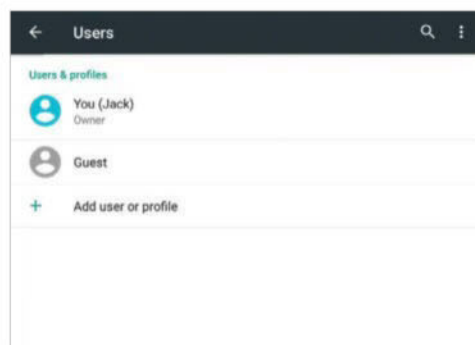
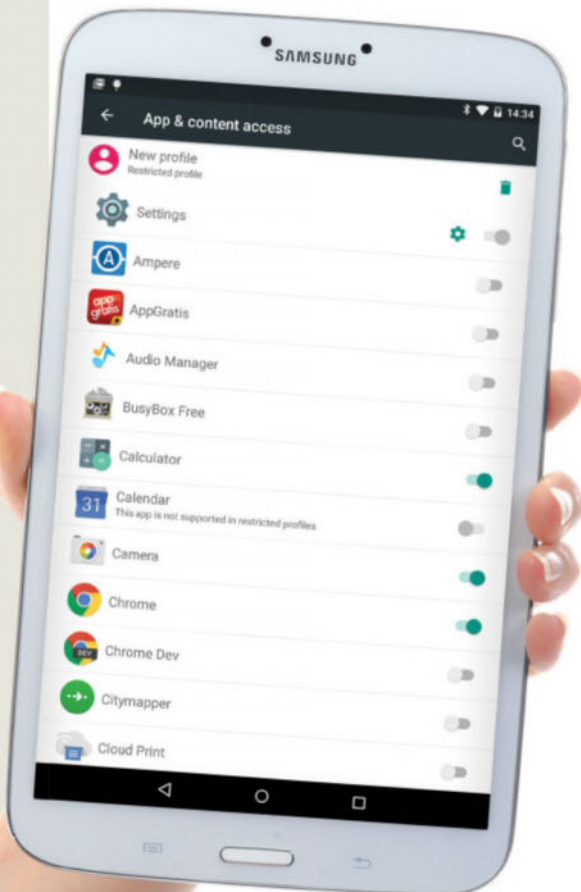
Create a child-friendly Android

Set parental controls to limit what children can access and keep a watchful eye on what they look at

Children often have a natural gift for working phones and tablets, but there are sometimes things you don't want them to see or do. This can include messing with settings you're not sure to adjust or accessing content that's not appropriate for their age. Fortunately, Android has some built-in parental controls. Google introduced user accounts and restricted profiles with Android 4.2 Jelly Bean in 2012, but they were both tablet-only. With Android 5.0 Lollipop, the

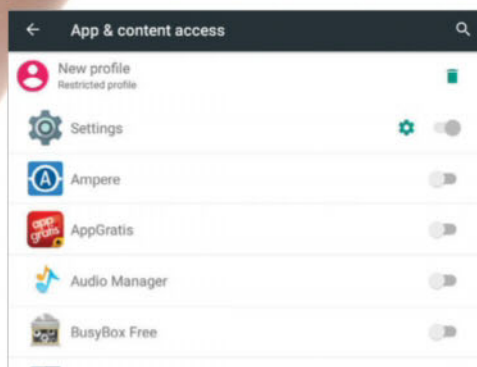
features have been revamped and extended to include phones as well as tablets.

For this tutorial, we will focus on Guest Mode which is ideal for locking your child out of emails and photos. You can also create Restricted Profiles that allow you to manage multiple users and limit what they can access. However, we will also cover some helpful third-party apps that enable you to monitor what apps your children are using and for how long, as well as track their location.

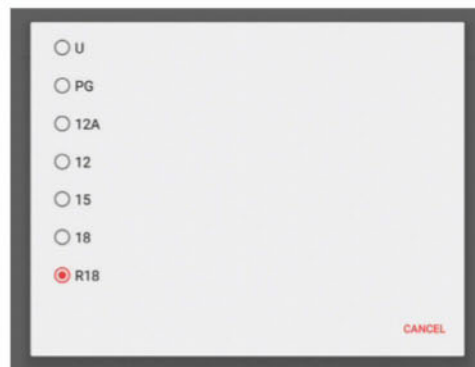


1 Switch to Guest mode
If you want to share your device with a child, you can prevent them from looking at your emails, photos and apps by putting your device in Guest Mode. Go to Settings>Users and select Guest to switch your device to a separate profile where they can't access your data.

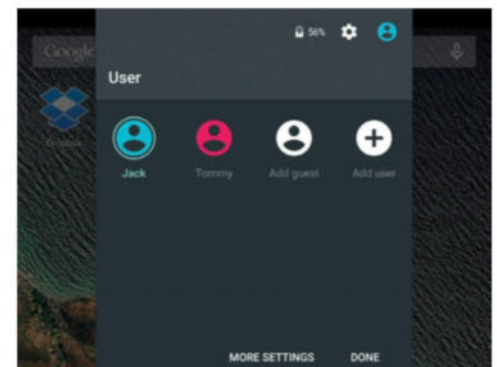
2 Create Restricted profile
However, while Guest Mode lets you protect your privacy, it doesn't give you parental controls to limit actions beyond disabling phone calls. For more control, go to Settings>Users>'Add user or profile' and select Restricted profile from the pop-up options that appear.



3 Control app access
After being prompted to set up a PIN code, you will be given a list of all the apps and content on your Android. Essentially acting as admin for your device, you can then decide which features your children can access by tapping on the toggles next to each name.

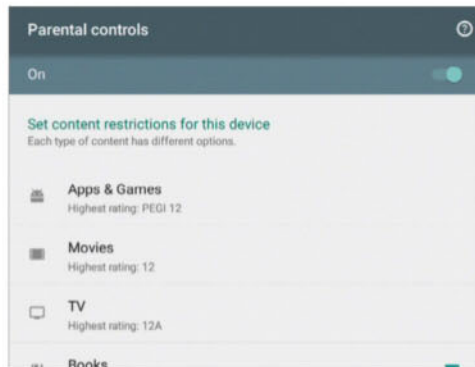
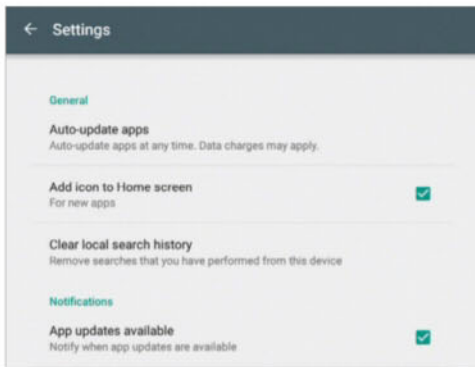


4 Additional controls
Some apps in the list will have cog icons next to them, tap on these to further refine restrictions. For example, tapping on Google Play Movies will allow you to set content ratings so that restricted users can't view or purchase videos rated higher than PG, 12, 15, and so on.



5 Switch between accounts
Finally, tap on the pink profile image at the top of the list to rename the restricted profile. From now on, you can switch between profiles by tapping the silhouette icon in the top-right corner of the quick settings. To return to your unrestricted profile, the PIN code has to be entered.

Message us!
Got an extra tips for raising the digital generation? Let us know!



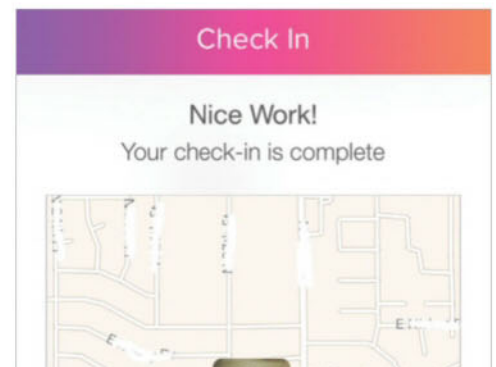
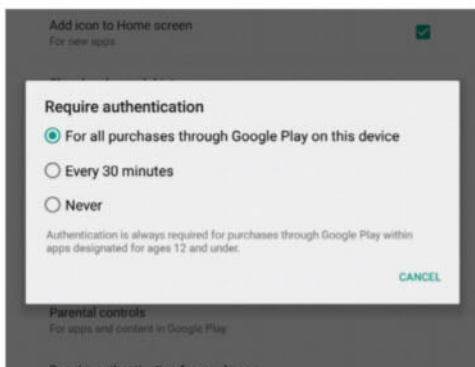
faq Ask your own question online at littlegreenrobot.co.uk

Is there a simpler way to set this up?

While it won't give you the same ability to customise parental controls, Kid Mode: Free Learning Games by Zoodles requires less tinkering to set up. Available from the Play Store for free, you can configure this app to only enable access to certain apps and block specific websites. HTC also bought Zoodles a few years ago, so you may find the app pre-installed on your device via the Parent Dashboard.

6 Play store settings
If you've decided to give your child access to Google Play, you can ensure only age-appropriate content appears in the Play Store. Go to Play store>Settings and select Parental Controls from under User Controls. Toggle the Parental Controls into the on position.

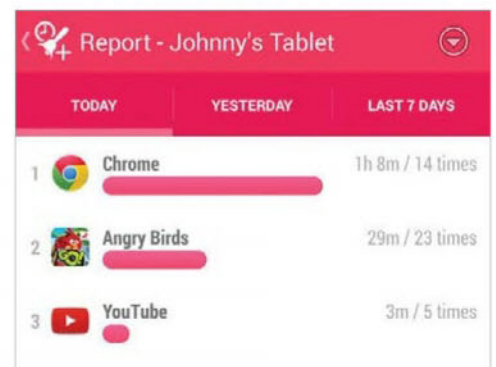
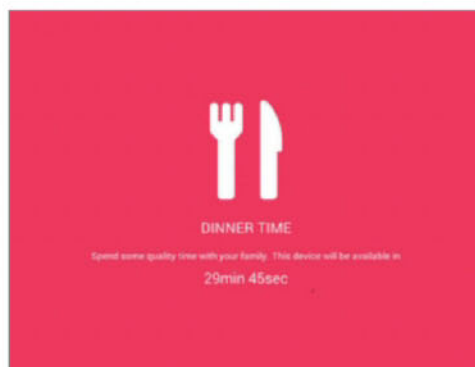
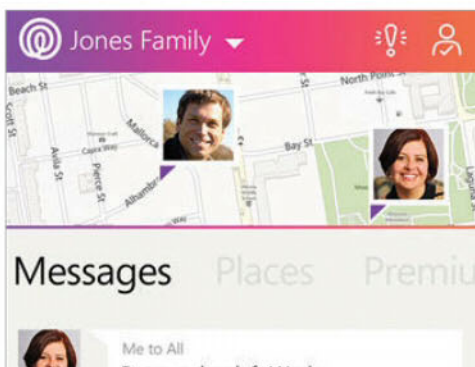
7 Set age ratings
Once again, you'll be asked to set a PIN so that your children can't just disable your parental controls. You will then be able to individually select what age ratings you want your children to access for games, movies and TV shows as well as block explicit books and music.



8 Require authentication
To control what your children are spending on Google Play, return to Play Store Settings>User Controls and select Require authentication. Select 'For all purchases...' from the pop-up options to ensure you can approve all downloads by having to enter a password.

9 Track family's location
If your child has their own device, you can track their location via GPS. While some apps allow you to do this covertly, we recommend Family Locator by Life360. This free download allows you to see where every member of your family is and for them to track where you are too.

10 Get location alerts
As well as being able to view every family member's location on a real-time map, you can set up geo-fenced alerts for when they leave or enter specific areas, such as home or school. All users can also voluntarily 'check-in' to places to send a notification to the group saying where they are.



11 Message one another
The best reason to give your child a phone is for them to stay in touch with you, so it's very helpful that Family Locator enables users to message one another. You can share lists, ideal for parents going shopping or to send to older children to help out as one of their chores.

12 Limit time on device
If you're worried how much time your kids spend on their phone, install DinnerTime Plus on both yours and their device. This app enables you to lock them out of their device with a tap of your screen or set their device to automatically lock during preset hours, such as bedtime.

13 Get usage reports
DinnerTime Plus also allows you to see what apps your child is currently using. You can also view a history of the last 15 apps they have been using and for how long. You can also get reports showing how much time the child has spent staring at the screen.

App used » Clavis Keyboard Works with » Android 4.0 and up

Set up custom hotkeys with Clavis Keyboard

Use this PC-style keyboard app to customise shortcuts and macros

Touchscreen keyboards have been getting better in recent years, but if you're looking for a typing experience as good as you find on a PC or laptop, they're still a long way behind. Or at least most of them are. Clavis Keyboard hopes to do something about that, giving you access to keys and shortcuts that your average stock or third party keyboard can't offer. Before downloading it, you should be aware this app is designed for tablets, and while it does work on phones, the smaller screen size means the buttons can be a little fiddly. In this tutorial, we will show you how to create your own custom shortcuts in the app, answer some questions about Clavis and give you a quick rundown of how the rest of the app works. You'll need the free version of the app which you can get from the Play store. If you like what you see, then it's well worth upgrading to the paid version.

“We will show you how to create your own custom shortcuts in the app”

Flexible design

It's this flexibility, and the sheer amount of keys that Clavis offers above other third-party keyboards, that make it such an impressive package. Head to the step-by-step guide now and we'll walk you through setting up the different macros within the app

Add hotkeys

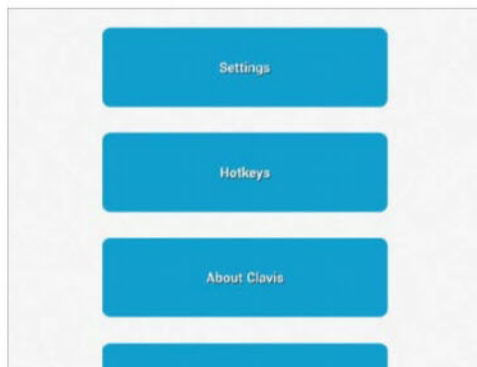
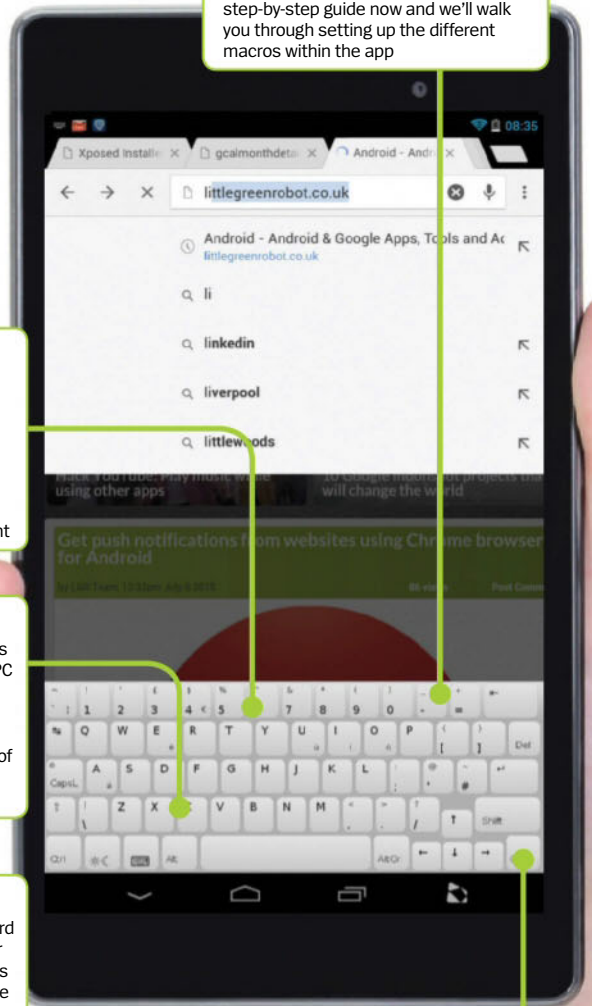
You can allocate a series of programmable macros to the number keys along the top of the keyboard. When you use them in conjunction, these macros come into play, essentially creating a string of hotkeys that you can use as shortcuts for whatever you want

Classic shortcuts

These will work in the same way as the control keys on your average PC keyboard and open up the usual shortcuts that you are used to when you're typing, such as copying, pasting and selecting all of the text. But with Clavis they add something extra too

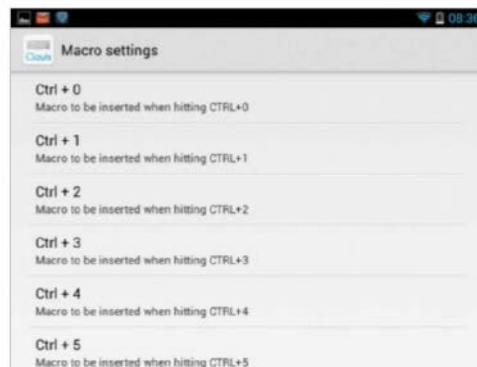
Total control

As you can see, the Clavis Keyboard has plenty more options than your average mobile keyboard. The keys we're most interested in are on the left and right of the screen. It's the two control buttons that give you an extra level of keyboard options



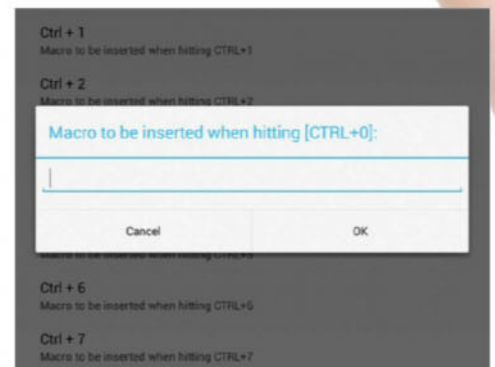
1 Once it's installed

Once you've downloaded and installed the free version of the app from Google Play, it'll walk you through a few options to get the keyboard set up as your default. Check the relevant boxes, accept the warnings and after about a minute you'll end up on this screen.



2 Set the hotkeys

Tap on the button marked Settings, then Macro settings and you'll be taken to this menu. All of the hotkey options should be blank. It's up to you to fill them with relevant, useful shortcuts. We'll give you a few suggestions as we work through the tutorial.



3 The first key

Tap on the first empty macro and you'll get a pop-up text box. This is probably the first time you'll have used Clavis Keyboard, so take a moment to get used to the layout and familiarise yourself with the differences between this and the mobile keyboards you're used to.

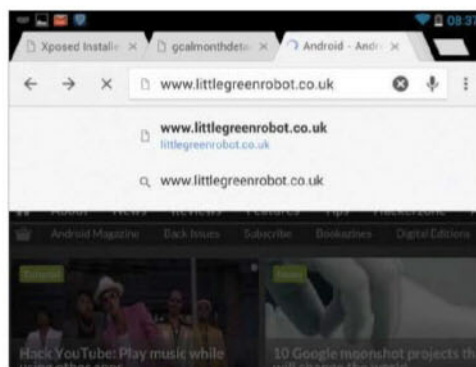
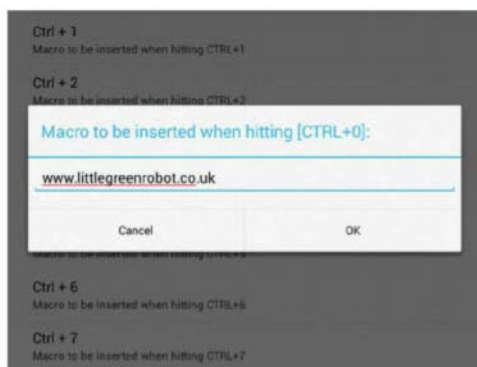
1 Check the shortcuts
You can use the control and arrow keys on your keyboard to skip to the start or end of your text.

2 Make the most of it
You can change the height and width of the keyboard displayed on your screen in the settings menu.

3 A nice landscape
The keyboard works best in landscape mode, but it doesn't split in two like some.

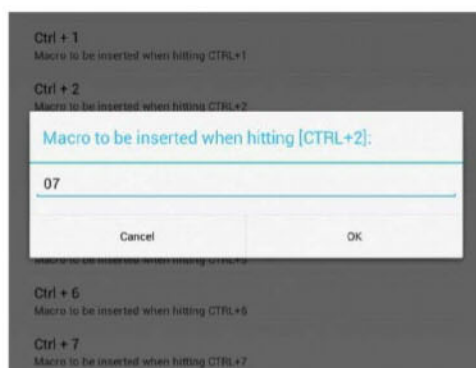
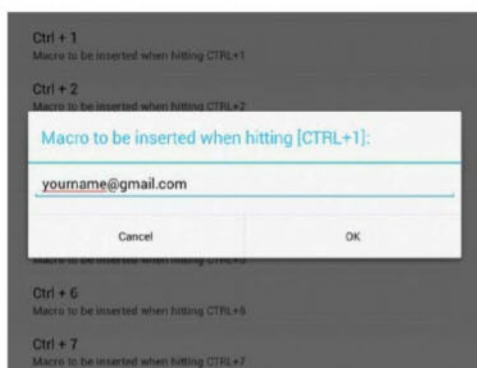
4 Alt it up
Other characters shown in the corners of the keys can be used by pushing the Alt key.

5 A sticky Shift
You can change the behaviour of the Shift and other useful keys in the settings menu.



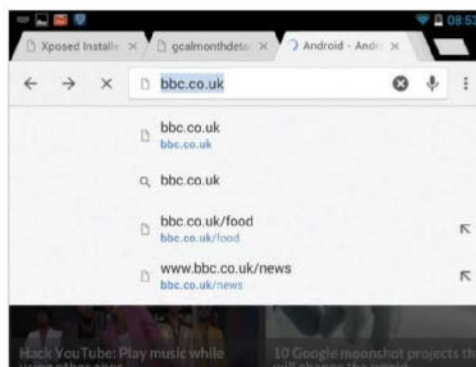
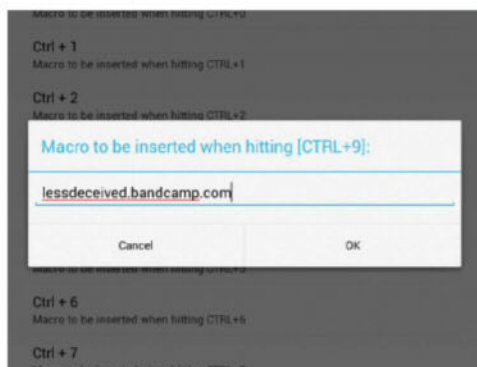
4 Add a URL
We'll start off with a simple macro that lets you type in the address of your favourite site with a simple combination of taps. Write the URL in the box and when you're done, tap the OK button. Congratulations, you've made your first Clavis hotkey. Now head to your browser.

5 Check it works
To check the hotkey is working, you will need to use it in a text box. However, you can't just push control once, you'll need to hold it down as you would on a PC keyboard. It takes some getting used to and the keyboard definitely works best in landscape mode.



6 Back to macro
Another useful hotkey shortcut is one that lets you write down your email address with a simple couple of taps. You'll be surprised how much time it'll save you. So for the second key, type in the email address you use most and when you're done, tap the OK button.

7 Your phone number
Have a think about the items that you spend the most time writing. It's usually stuff that you need to fill in forms. You may as well make the most of the potential time-saving that hotkeys offer, so think about which phrases and words are going to do that for you.



8 When they're full
When you've filled all of the macro keys with URLs, phrases and words that you think are going to help you the most, tap the OK button. It's worth checking they all work. You can always change the macros in the settings of the app by tapping the keyboard key.

9 Check the rest
Don't forget to use the rest of the shortcuts in the app. You can check all of them out by tapping the Hotkeys button located in the main menu. You can even save text to a macro by selecting it, pressing Ctrl+Alt and the number you want to assign.

faq

Ask your own question online at littlegreenrobot.co.uk

Why is there no auto-correct dictionary?

Clavis Keyboard aims to give you a more PC-like typing experience, which means that your words aren't automatically corrected when you misspell them. This might be a bit of a pain to start with, but the larger keys and extra flexibility of the keyboard means you should be able to type without making so many spelling errors anyway.

Is there a swipe option on the Clavis Keyboard?

At the moment, there are no swipe options, although the keyboard isn't really designed for that sort of input. However, the developers do listen to requests, so there's a chance it might be added in the future, but we'd be surprised. This is a keyboard that's designed for work rather than play.

Need help?

Got a problem with your Android phone or tablet?
Get in touch with us...

facebook
[/littlegreenrobot](https://www.facebook.com/littlegreenrobot)
Get help from our Facebook community

twitter
[@igrobot](https://twitter.com/igrobot)
Follow us to send your questions and thoughts

email
qa@littlegreenrobot.co.uk
Send your questions for our team of experts to tackle

Apps used » Rotary Home Works with » Android 4.1 and up

Set up a rotary homescreen

Inspired by the classic analog dial, Rotary Home offers a unique way to arrange apps

Give your smartphone some retro flair with the Rotary Home launcher. It's both silly and inspired, but this free download organises your homescreen apps into a circle so that it looks like an old-fashioned telephone.

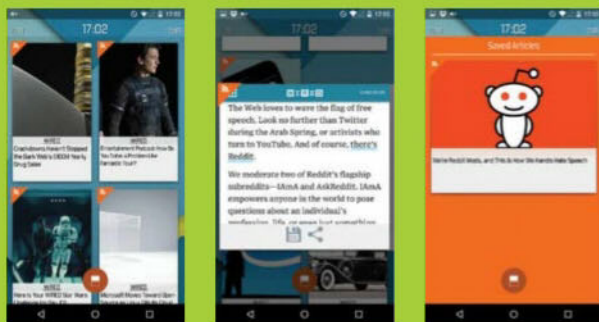
Although you can only get eight apps on a wheel, you can cram more in by sorting them into folders, and you can also set up multiple wheels on your homescreen. We're not actually convinced this arrangement makes it any faster than selecting an app from a row of icons, but it's certainly more visually engaging.

Additional features provide weather forecasts at a tap and dragging the screen upwards will also reveal today's top news stories, aggregated from all over the web. You can read these there and then or save them to read later.

“Both silly and inspired... It organises apps into a circle”

The circle with more than one side

There's more to Rotary Home than just some pretty wheels. It's also a news aggregating service that lets you save stories for later



Tap to search

At the bottom of the launcher screen, there is a bar that shows you the time, your battery life and your internet connection. Drag this up and you should be able to see a list of news stories in a grid, as shown above.

Tap and go

Tap on a story and it will expand to fill half of the screen. From there, you can read the article and then find related stories. Tap on the familiar Share symbol to tweet, email or share the story with your friends on Facebook.

Save for later

If something catches your eye, but you can't read it properly, Rotary Home gives you the opportunity to save it for reading later in the Saved Articles section. This is found by tapping the circle at the bottom of the screen.

Wheels within wheels

You can have up to four wheels on your homescreen, meaning a total of 32 spaces for your various apps. This should suffice for most people, but it is rather frustrating that you can only see tiny icons when switching between wheels

Extra settings

Across the top of the screen are two further buttons. The left hand one opens up a detailed account of the weather while the right-hand option brings up the settings list, where you can alter your location and personalise the colour of your settings menu

Changing circles

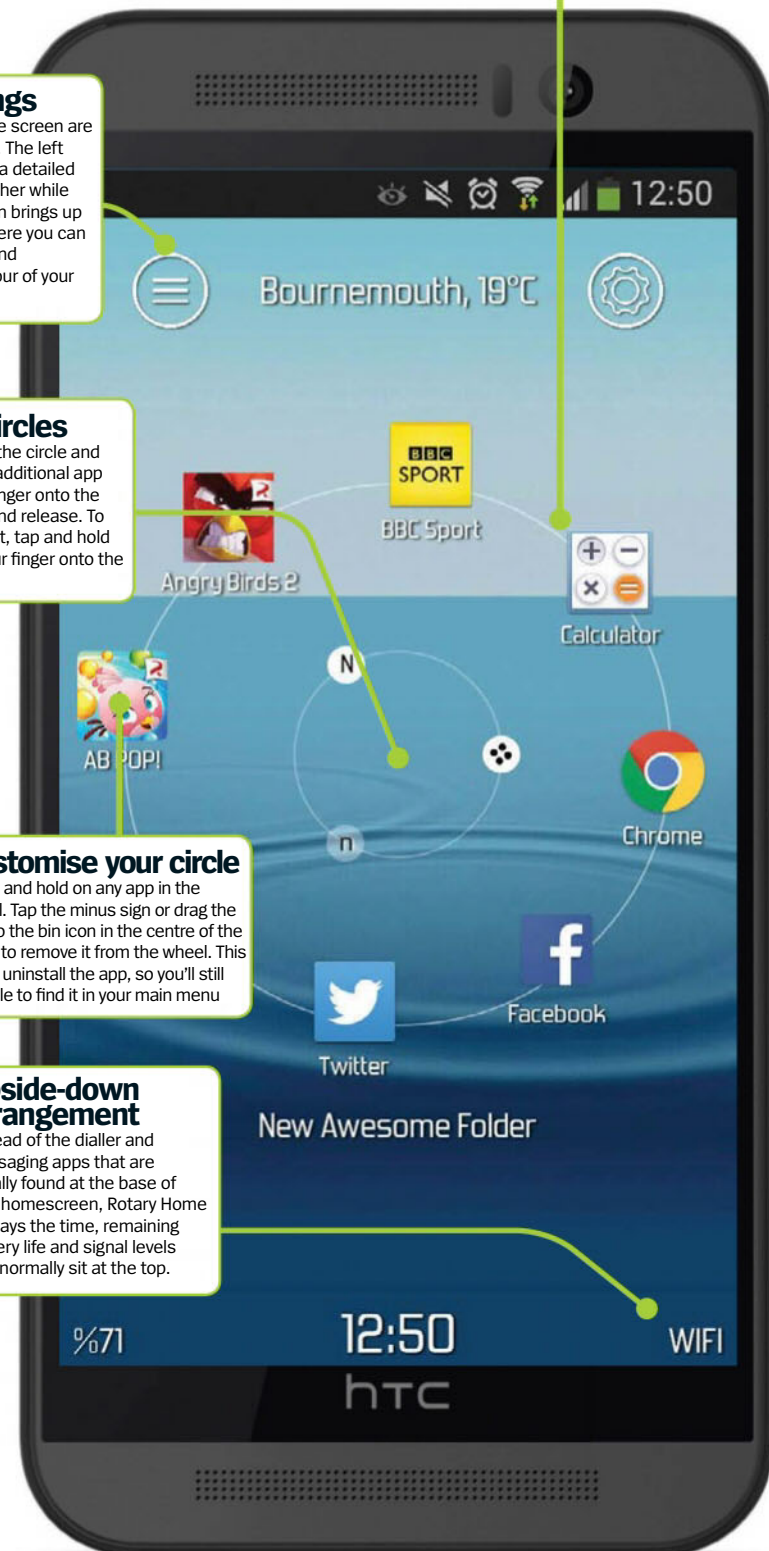
Tap in the centre of the circle and hold, this brings up additional app wheels. Slide your finger onto the one that you need and release. To access your apps list, tap and hold again, then slide your finger onto the circle with four dots

Customise your circle

Press and hold on any app in the wheel. Tap the minus sign or drag the app to the bin icon in the centre of the circle to remove it from the wheel. This won't uninstall the app, so you'll still be able to find it in your main menu

Upside-down arrangement

Instead of the dialler and messaging apps that are usually found at the base of your homescreen, Rotary Home displays the time, remaining battery life and signal levels that normally sit at the top.



App used >> Google Photos Works with >> Android 4.0 and up

Fully disable Google Photos auto-upload

Uninstalled the Photos app? It may still be uploading your photos and videos!

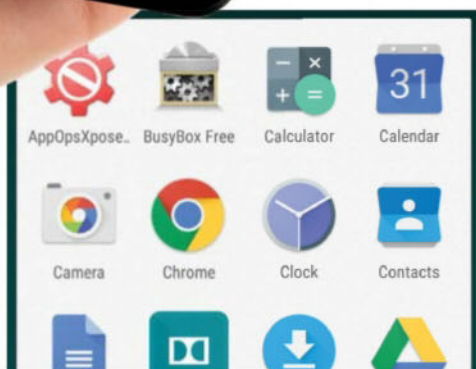
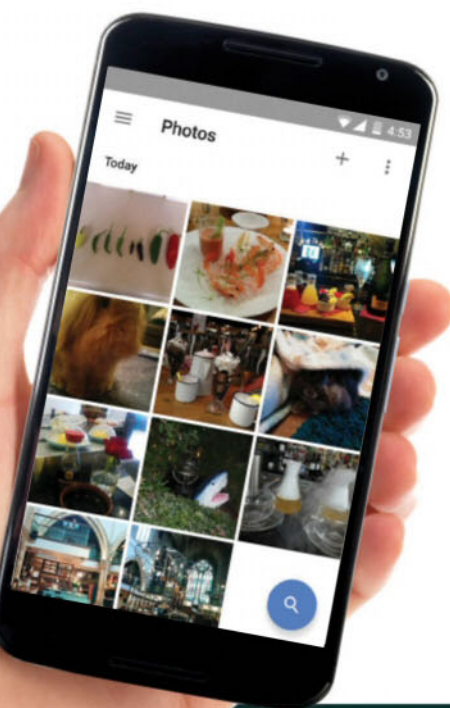
Google's new Photos app has lots to offer snap-happy Android users, but if you've tried the app, decided it's not for you and uninstalled it, it may still be uploading your photos.

This is because uninstalling Google Photos doesn't automatically disable its backup component, which may continue to backup your photos and

videos – potentially without your knowledge.

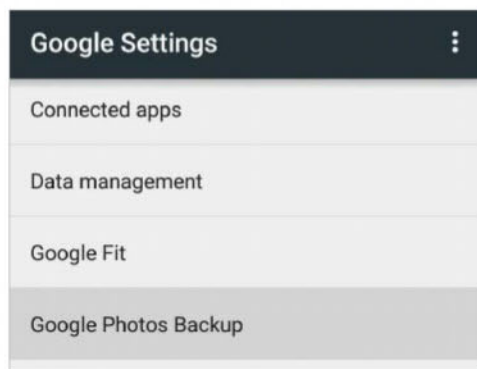
In this tutorial, you'll find out how to make sure Google Photos is no longer syncing your photo and video content. This trick works regardless of whether you use Google Photos on a day-to-day basis, or if you've completely removed the app from your Android device.

The ability to enable and disable Google Photos' backup, even when the app isn't present on your device, gives you the option of using an alternative gallery app while continuing to benefit from Google Photos' automatic backup function.



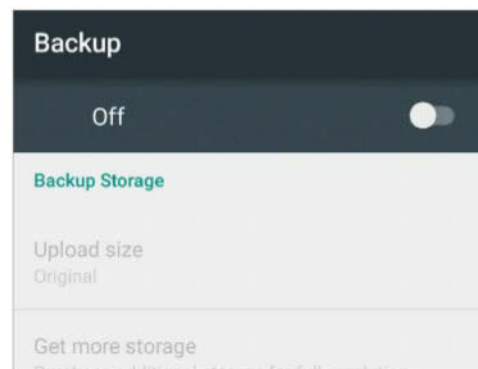
1 Open Google Settings

When you first launched Photos and entered information, such as the email address, you actually entered this information into the Google Settings app, not the Google Photos app. So start by launching Google Settings.



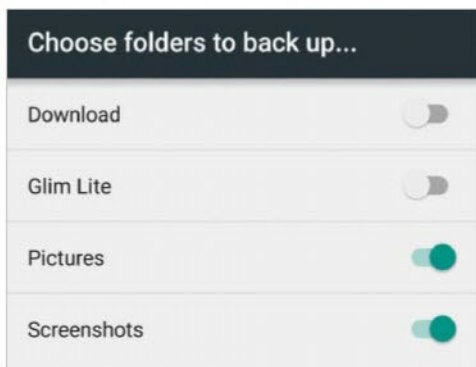
2 Is backup still enabled?

Tap Google Photos Backup. Here, you'll find all the backup settings for your Google Photos account, even if you've uninstalled the Google Photos app. If the Backup slider is set to On, this means your device's media is still being uploaded.



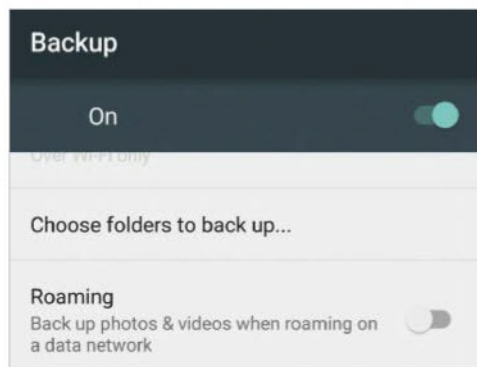
3 Disable photos backup

To disable backup, tap the slider so it displays Off. As backup is disabled, no new photos and videos you take and store will be uploaded. However, bear in mind that this media may get uploaded if you re-enable backup at a later date.



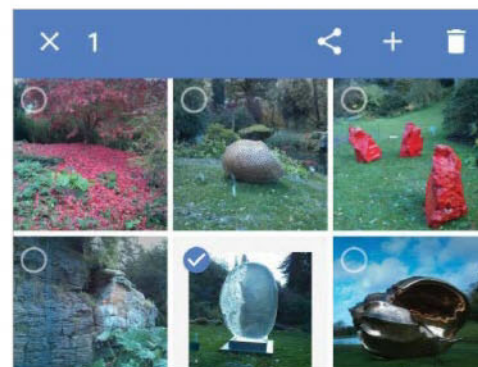
4 Sync certain folders only

Instead of disabling backup, you may want to restrict it so it uploads from approved folders only. To do this, open Google Settings > Google Photos Backup. Tap 'Choose folders to back up...' then disable or enable individual folders.



5 Resume backing up

To resume backing up your media, return to Google Photos Backup and toggle the slider to On. You can also access Google Photos Backup via the Photos app: launch the app, open the menu and tap Settings > Back up & sync.



6 Delete individual items

To permanently delete an item from Google Photos, open the app and find the Photos section. Long-press the item and then tap the trashcan icon. Go to the app's Trash section, longpress on the item again and then tap the trashcan icon.

App used » KLWP Live Wallpaper Maker Works with » Android 4.4 and up

Create custom live wallpapers

Design your own live wallpapers that display exactly the information you need

Live wallpapers have a reputation for eating up your battery without offering much in terms of additional functionality. But thanks to KLWP Live Wallpaper Maker you can now create live wallpapers that are genuinely useful and suit your needs.

Available from Google Play for free, this powerful app not only lets you choose the look and colour of your live wallpaper, but also lets you pack these custom backgrounds with the functionality you'd usually only get from multiple widgets. You can incorporate everything from clocks, to weather data, media players, app shortcuts, toggles, and much more.

In addition, you can customise every part of your KLWP live wallpaper, right down to the font used in the AM/PM text of your wallpaper's integrated digital clock.

The only downside to this powerful app is that there's a lot for the new user to digest. So this tutorial sets out to demystify KLWP's various menus and gets you ready to create your own data-packed custom live wallpapers.

"You can customise every part of your KLWP live wallpaper"

Number of screens

Increase or decrease the number of screens that make up your wallpaper by tapping this icon and then selecting a new number from the menu. To preview the different screens that make up your wallpaper, swipe left or right on the main KLWP editing area

Play with presets

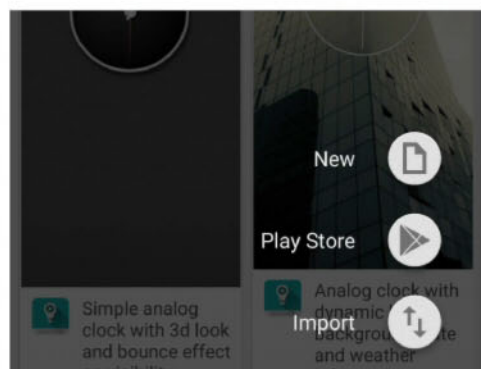
A good way to see exactly what's possible with KLWP is to explore one of its live wallpaper presets it has available. Tap the menu icon, select Load Preset and choose a preset from the menu. This preset appears in the KLWP editor, ready for you to explore

Wallpaper structure

Your current position within the wallpaper structure. The structure of a KLWP wallpaper is typically the top level Root, followed by an Item, such as a Clock or Shape, and then a component of that item, for example the Second Hand component of a Clock

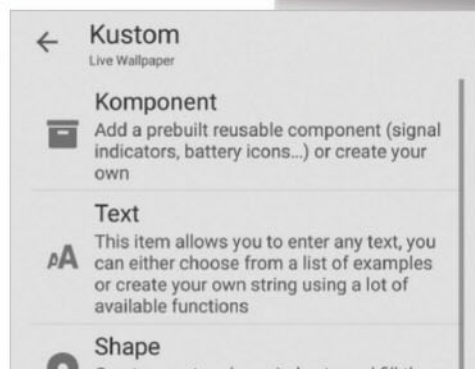
Adjust your items

To rename, copy, or delete an item, open the Items tab, then tap that item's corresponding checkbox and use the trio of icons that appear in the toolbar. You can also share or cut the item, by tapping the toolbar's three-dotted menu icon



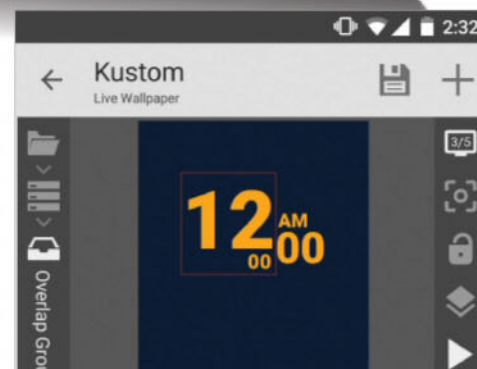
1 Create blank preset

Start with a blank preset by tapping the lined menu icon and selecting Load Preset. Tap the + in the bottom-right and select New. Whenever you load an existing preset, or create a new one, you'll start off at the Root layer – notice the Root label in the upper-right.



2 Add your items

When you're in Root, the menu towards the bottom of the screen contains an Items tab. This tab displays a list of all the items that make up your wallpaper. To add items, tap the + in the upper-right and choose from KLWP's wide range of pre-built 'Komponents' and items.



3 Access each component

After adding your items, KLWP gives you lots of options for editing them. In the Items tab, tap the item you want to edit. You'll see a breakdown of the individual components that make up this item, for example the individual pieces of text that make up a Date item.

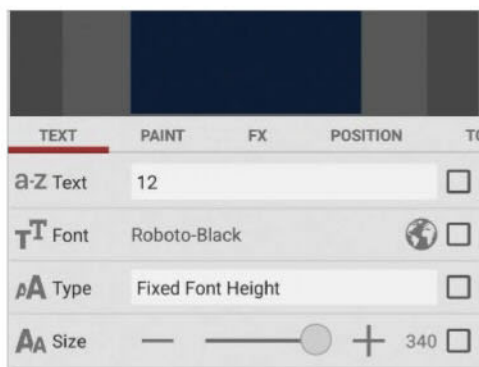
1 Download KLWP wallpaper
To find KLWP wallpapers created by other people, search for #KLWP on Google Play.

2 Expand your Komponenten
To find additional Komponenten Packs containing things like new battery bars, search #Komponent on Play.

3 Import new fonts
To import fonts, place the relevant TTF/OTF files in your device's Kustom/fonts folder.

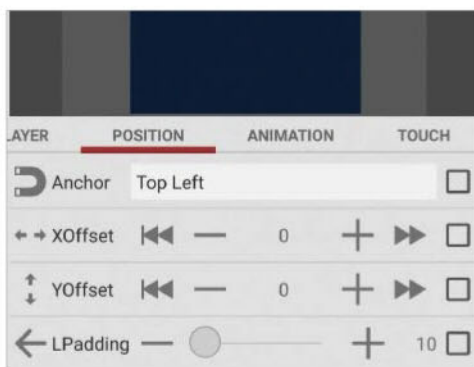
4 Make bulk changes easier
Create rules that apply to multiple items, by opening Root and swiping to the Globals tab.

5 Need more help?
You'll find lots of information and tutorials at the KLWP website kustom.usrvice.com.



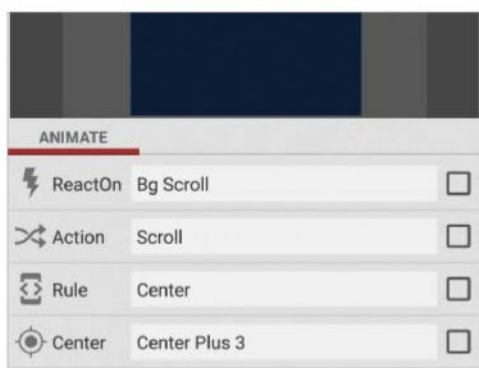
4 Edit individual components

Keep tapping the different components until you reach the editing options, which vary depending on the selected component. For example, tapping a Text component will bring up text-editing options. There's lots to explore here, so spend some time looking around.



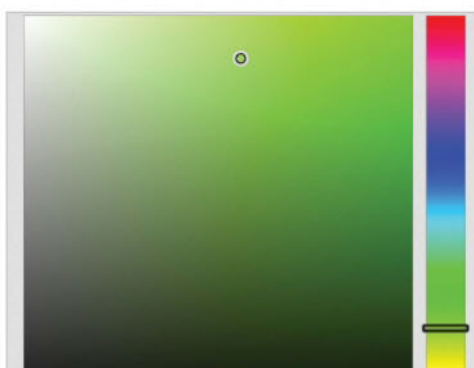
5 Reposition your items

Once you've finished editing, return to Root by pressing your device's Back button. Chances are you'll want to reposition at least some of your items, so select an item in the Items tab and swipe to the Position tab. Use the Position controls to move the selected item.



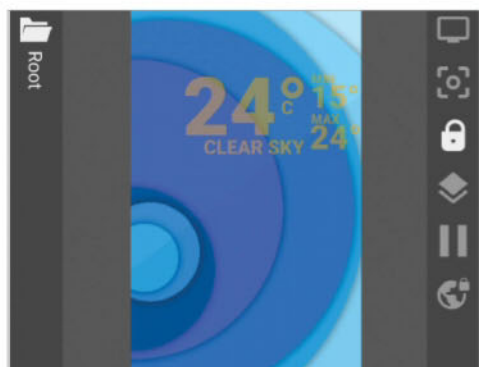
6 Add animations

You can also add animations to items. Select an item and swipe to the Animation tab, then tap the + icon. Tap Animate followed by ReactOn. Select the action that will trigger your item's animation. Next, tap Action and select the type of animation your item will perform.



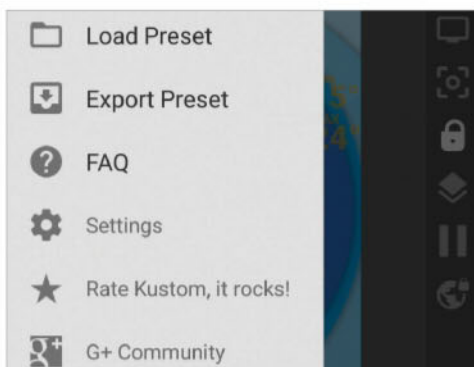
7 Choose background

The next step is choosing a background for your live wallpaper. Return to Root, then in the bottom menu swipe to Background. If you want to use a colour as your background, tap Type and select Solid, then tap Colour and choose your colour settings from the menu that appears.



8 Use an image

To use an image as your background, tap Type and select Image. Tap Pick Image and choose an image to use. To tweak this image, tap Edit Image or experiment with Filter, Blur and Dim. To apply your live wallpaper to your device, tap the Save icon in the toolbar.



9 Save your wallpapers

Applying a wallpaper doesn't save it for later. If you purchase KLWP Pro Key (£1.99/\$2.99), you can save your wallpaper by opening the menu and selecting Export Preset. To open a previously-saved wallpaper in the KLWP editor, select Load Preset and ensure SD card is selected.

faq

Ask your own question online at littlegreenrobot.co.uk

How do I embed app shortcuts in my wallpapers?

Add the item you want to embed your shortcut in, for example a Shape or piece of Text. Then, select this item in the Items menu and swipe to the Touch tab. Tap Single and select Launch App from the menu that appears. After this, tap the new App option and select the app you want this item to link to.

How do I embed multiple images in my wallpaper?

Although you can use an image as your background, you can also add more images as separate items. Open the Items menu, tap the + in the toolbar and select Image. This adds an image placeholder to your wallpaper. Populate this placeholder by opening the Items tab, selecting your Image item and then tapping Pick Image. Once you've chosen your image, you can then edit it in to the placeholder using the options in the Bitmap tab.

Need help?

Got a problem with your live wallpaper? Get in touch with us online...



App used » Chrome Works with » Varies with device

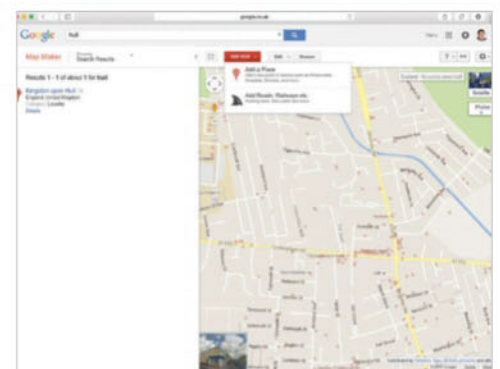
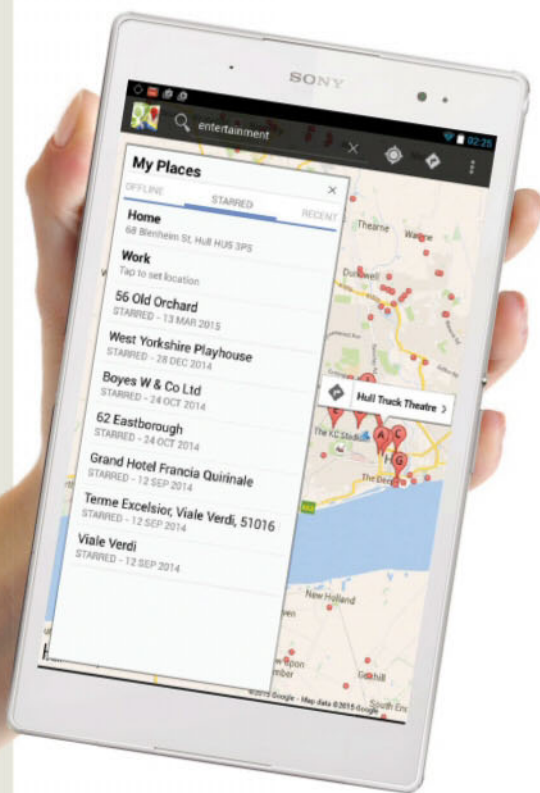
Add to Google Maps with Map Maker

Use the Map Maker web application to add your own edits to Google Maps

Map Maker is clever tool that essentially crowd-sources local knowledge to improve Google's Maps service. If the name sounds familiar it may be because the tool hit the headlines earlier this year, when some naughty user used Map Maker to draw some rather crude anti-Apple graffiti on Maps. Consequently, the tool has been relaunched all content is now vetted before it's put live. This is why, for the time being, you can't edit

any of the entries in the UK, which is a bit of a shame. But other countries can be tweaked, so there's still a lot you can add to improve the world's most popular atlas.

In this tutorial, we'll show what to do, including how to use your location history in the Google Maps app itself, giving you quick access to the content you created when you were at specific places in the past. You'll also need a PC for the first part of this guide.

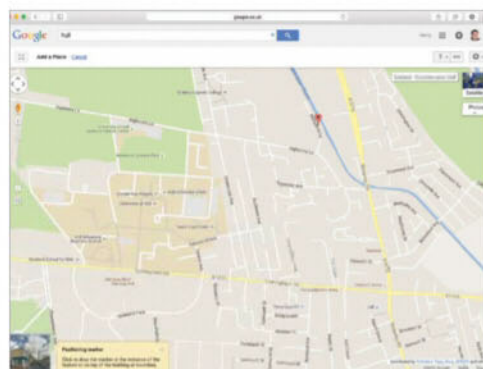


1 Hit the web

First up, you'll need to point your web browser to google.com/mapmaker. That's where you'll find the Map Maker web application. You'll be walked through a brief overview of the features that the program has and then you'll be asked to set a base location for your editing.

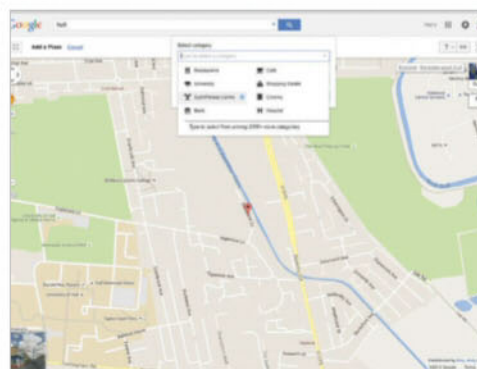
2 List of editable countries

Like we said in the introduction, editing isn't possible in the UK right now, but you can still play around with how the functions work and also use what you learn to edit other places around the world. You can find a list of countries you can edit at goo.gl/Pvdbx5.



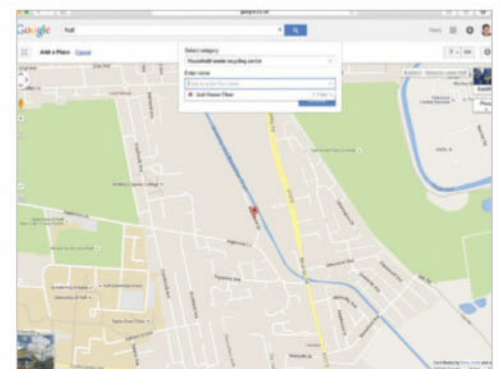
3 Drag and drop

To get started, click the Add a Place button. Select the style of object you would like to put into place, then you'll be given the familiar Google Maps place maker to drag around and drop into the right position. When you're happy with where it is, click to place it.



4 Select type of place

Once you've plopped the marker down, you'll be asked to select what sort of place it represents. There are a few well-used options offered from the start, but if what you're looking for isn't there, you'll need to type the sort of place you're adding into the text box above them.



5 Give it a name

Once you've chosen what it is you're adding, you'll need to give it a name. If there are other nearby places that match the type of object you've chosen to place, they'll pop up as you start to type in order to make sure you're not adding something in the wrong place.

1 Check the settings

To get the most out of Maps, you'll need to tweak your Google account settings.

2 Make the match

Use your location history to better tag the places that you have been to in Map Maker.

3 Keep it simple

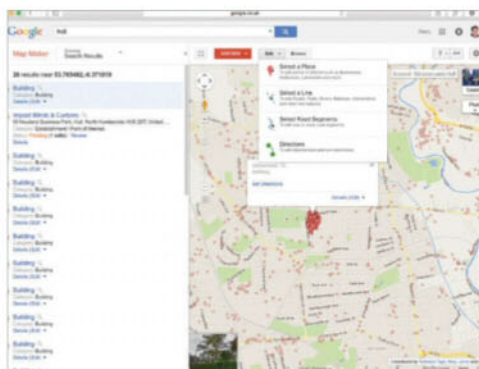
Remember that you're not really reviewing things in Map Maker, so keep your entries simple.

4 Try to work together

If you favourite place is already marked, add to the submission rather than creating your own.

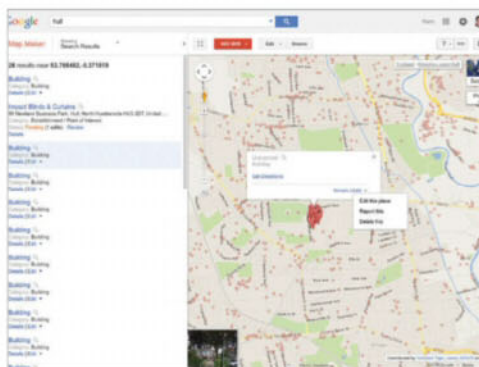
5 Change is good

If your location is wrong, then please fix it. This will benefit us all in the long run.



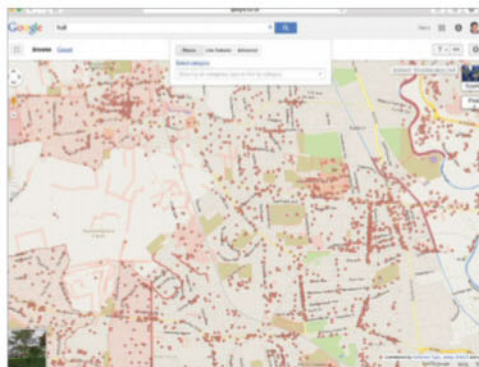
6 Have an edit

If you're more interested in editing than adding your own places, you can do this by clicking the Edit button placed on the bar at the top of the screen. You'll get a menu of the various different styles of objects that you are able to edit. Click one to pick it.



7 There's another way

You can also edit items by clicking on them and then selecting the edit option when you're in browse mode. You can change the items that are displayed so that it is easier to pick out what you're trying to edit from the crowd of icons, which is another pretty handy feature.



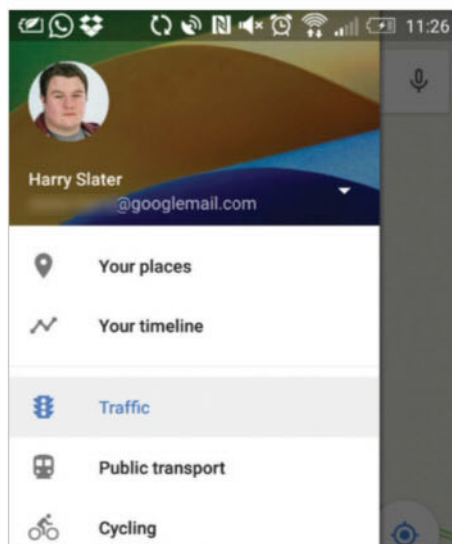
8 Have a browse

Once you're done with your browsing, you can send off your edits for approval. Once they're cleared, you'll be able to see them on Google Maps on your phone and so will everyone else who uses the app. Of course, people will be able to edit your additions as well.



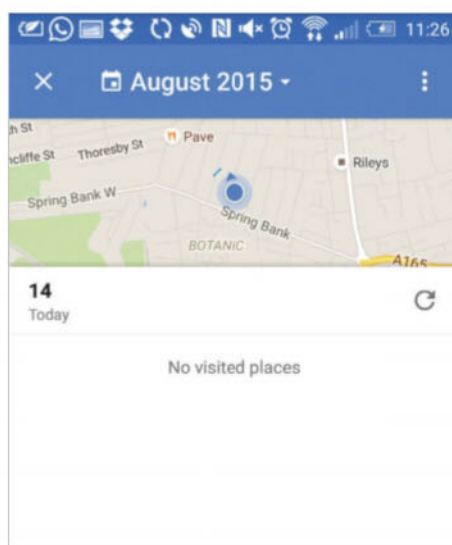
Explore your location history

Use Google Maps to check up on your location history and find out where and when you have travelled



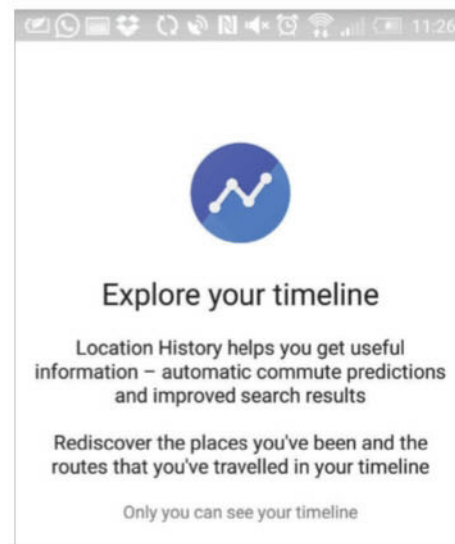
1 The right version

You'll need the latest version of Google Maps installed to get to grips with this feature. Tap on the menu button to bring up the sidebar and you should see an option marked Your Timeline. This is your stored location history from Google. Tap on it to get things started.



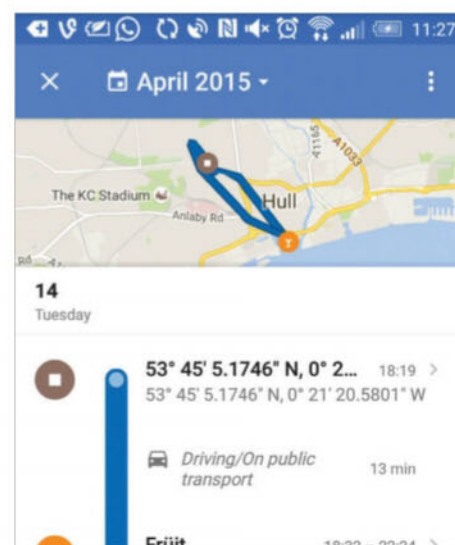
3 Get set up

The first thing you'll see is your location history for the current day, but if you would like to see what you've been up to in the past, it's pretty easy too. Tap on the arrow that's next to the name of the month to open the calendar that stores your data.



2 The first time

If this is your first time using this portion of the app, you'll be given a little explanation about what Your Timeline does and what information it stores. Have a read and if you're happy, tap the Let's Go button. Or you can get more info by tapping the Learn More button.



4 Explore your past

You can now scroll through the months to find specific days and see where you were. Photos uploaded to Google Photos will also be visible, so you'll actually be able to see what you were doing, where you were doing it, and how long you were there for.

From the makers of **Android** magazine



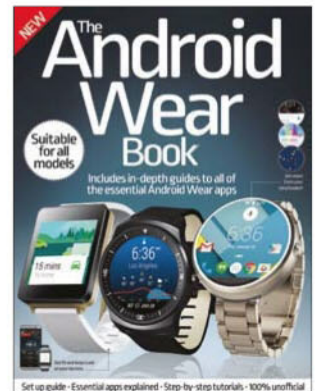
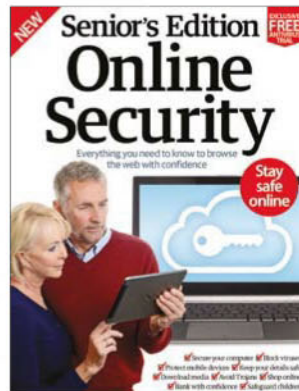
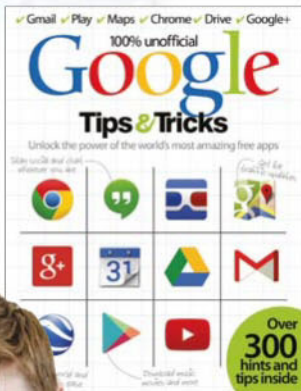
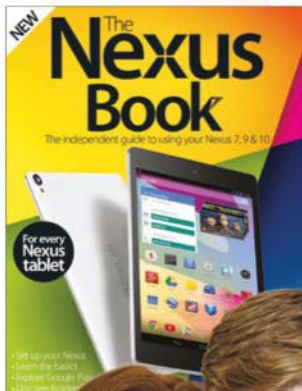
Samsung Galaxy

The Complete Manual

No matter what Galaxy device you have, this book will help you get the most from your phone or tablet. Packed with easy-to-follow guides to all the essential features, functions and apps, this is the perfect book to help you master your Galaxy.



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Jargon Buster

Get up to speed on all the terms you will need to know when it comes to 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, and is 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 all the files that make up the operating system that is 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 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 backup 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, which is a type of solid-state storage. The terms 'flash' or 'flashing' mean installing some new software onto your device's storage.



GET iOS 9 ON ANDROID

Get the iPhone 6S experience without Apple's restrictions

One of the advantages of Android over Apple's iOS platform is that Android is so flexible you can make it look like iOS if you want to. Over the next couple of pages, we'll show you how to get the look of Apple's next big update, iOS 9, so you can enjoy the look and feel of the iPhone 6S without having to pay the premium pricetag or worry about the app limitations.

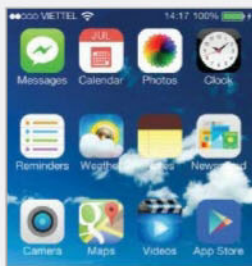
Apple's new iOS 9 will be introducing iPhone users to a lot of features that those of us on Android already take for granted. For instance, Apple users will only be able to enable a battery-saving mode the

first time. Siri will also now automatically add invites sent via email to your calendar and Apple Maps will include transit directions, features that have both been provided by Google Now and Google Maps respectively for some time.

However, iOS 9 still has a lot to offer. Over the next few pages you will find out how to give your device a new look and feel, send a quick-reply from message notifications, control your cursor with the volume buttons, enjoy picture-in-picture video, and plenty more. »

Get the look

Get an iOS 9 themed launcher



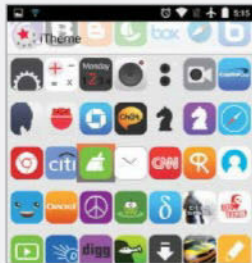
Getting the iOS 9 look on your device isn't too difficult. There are already launchers on the Play store. Check out OS 9 Launcher, it's probably the best one out there.

Go even further



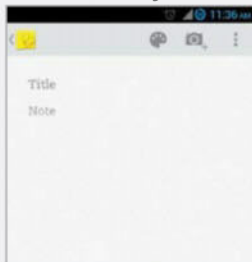
Grab Wallpapers for iOS9 from the Google Play store and you will be able to go one step further by adding iOS-style wallpapers to your homescreen with just a few taps.

Get the icons



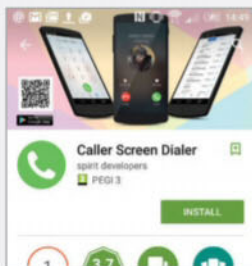
You can download icon packs that change the look of your icons as well. OS 9 icon pack isn't free, but it looks pretty damn impressive if you don't mind forking out for it.

Get the keyboard



Change colours on SwiftKey Keyboard + Emoji to mimic the colour scheme of iOS 9, but if you're serious you might consider paying for OS 9 keyboard from the Play Store.

Get the dialer



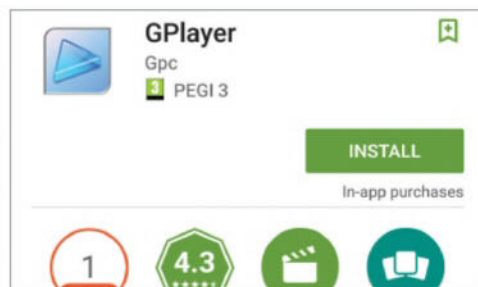
You can grab the Caller Screen Dialer app for free from the Play store to get that iOS 9 feel to your dialer. It looks authentic and should complete your iOS look.

Get picture-in-picture video with GPlayer

Use the GPlayer app to watch videos in pop-up smaller windows while you're doing something else

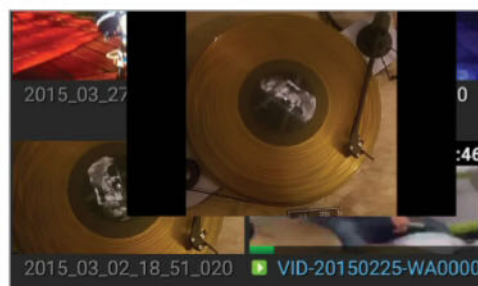
This one is a feature that's been included on some Android devices for a while, but has yet to become a standard part of the OS. Using GPlayer, you can minimise your video to watch when you're doing something else. It won't take you long to get

the app set up. There's a free version available on the Google Play Store and if you like what you see, then you can buy an IAP to unlock the professional version. For the purposes of this tutorial, the free version will do just fine.



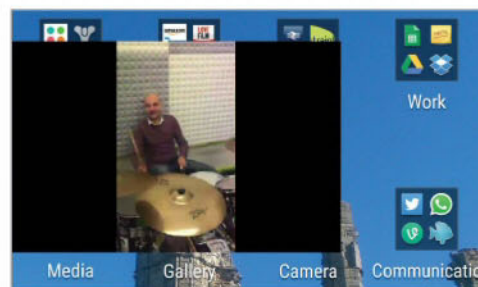
1. Grab the app from the Play Store

Head over to the Google Play Store and download GPlayer. It's free and used to be called Super Video. It's not a huge file. Once it has downloaded, accept the terms and conditions, and choose your storage locations. Now you're good to go.



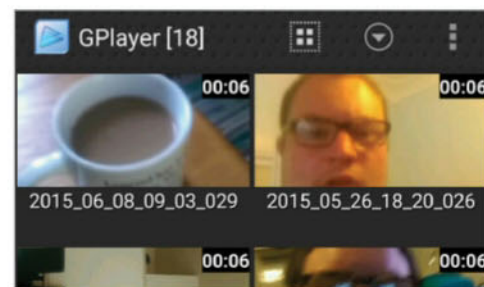
3. More than one

Depending on the device you're using, you can actually have multiple videos running at the same time. When you have one open, tap another to open it in a new little window. You can change the audio priorities in the Settings menu.



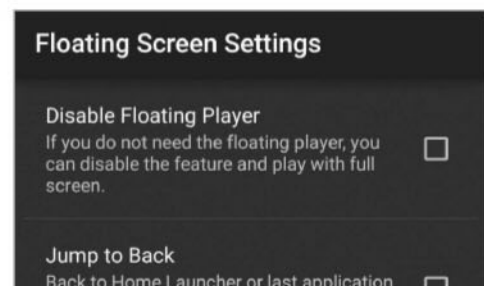
5. Snap to homescreen

You can change the settings of the app so that it will snap back to the homescreen or the last app you had open when the video is finished. It's a sensible idea if you want to quickly open a video and then get back to what you were doing.



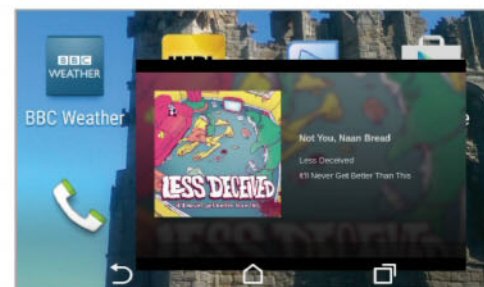
2. The big list

The first thing you'll see when the app finishes loading up is a list of all the videos you have saved on your device. Tapping on any of these will start it playing full screen, but if you tap the box with an arrow in it, the video will shrink.



4. The settings menu

Head to the Settings menu, then tap on Floating Screen Settings. Here you can tweak the way the pop-up windows work. You can change the number of floating screens you can create and change the minimum size of the windows too.



6. YouTube videos too

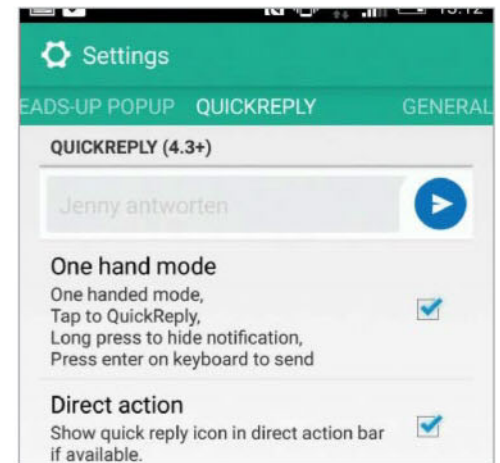
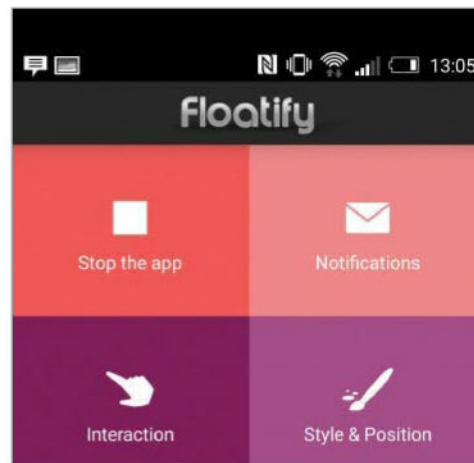
If you want to play YouTube videos in floating windows, you can. Just press the share button on the YouTube app and tap on GPlayer. The video you've selected will open in a floating window. Make sure you stop the YouTube app version too.

Quickreply to notifications

Use the premium Floatify Heads-up QuickReplies app to enable you to reply to messages from your notifications bar

Apple devices have had quick reply built into the manufacturer's stock apps for a while now, but iOS 9 sees it rolling out to third party apps as well. You can easily get the feature up and running on your Android device with Floatify Heads-up QuickReplies, although you will have to pay a little bit for the

privilege. You can grab a free version of the app first to make sure it works, then you'll need to buy the full version from the Google Play Store to get the functionality we're going to talk about in this tutorial. It's worth it if you're getting a lot of messages though and should save you a good chunk of time.



1. Grab the premium app

Once you have checked that the free app runs on your device and set up all the permissions you need by following the onscreen instructions, head back to the Play Store and grab the premium license. Once that's installed, head back to the main menu of the app.

2. Check the settings

Head into the settings menu and check which gesture is set to allow you to quick-reply to messages from notifications. By default, it's usually set to double-tap, but you can change that if you'd rather use something else. One-handed mode will change a number of the settings.

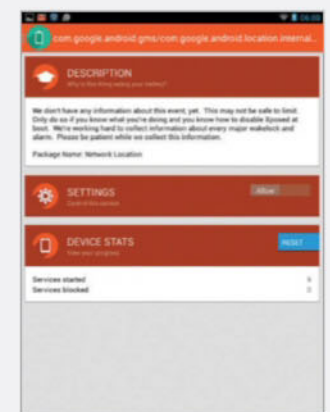
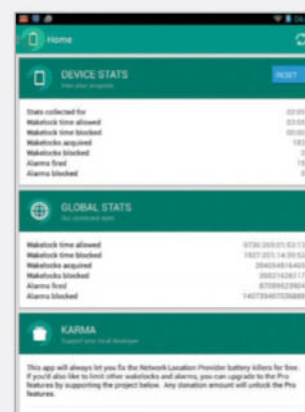
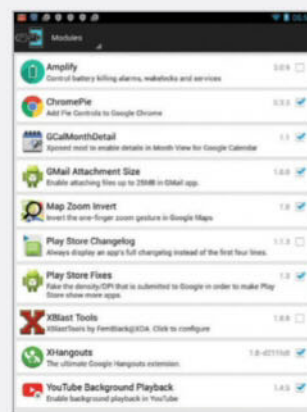
3. Reply to notifications

When you're done, you should see a notification dropping down whenever you get a message. Perform the right gesture and you'll be able to write a reply from the notification. It's a good idea to disable normal notifications for the apps, otherwise your device might get confused.

More power with Amplify

Use the Amplify app to emulate iOS 9's new power-saving options on your Android phone

Apple has introduced some new battery-saving features in iOS 9 and it reckons you'll be able to get an extra hour of life out of the iPhone 6 with the new version of the operating system installed. That sounds pretty impressive, but a lot of the new features (such as a low power mode) have been standard on Android for a couple of years, if not more in some cases. If you want to get even more life out of your battery, then Amplify is a good bet. You'll need a rooted device and you'll need to have Xposed Framework installed. If you check both of those boxes, then head to the Google Play Store and download the app to get started.



1. Set up the module

Once you have downloaded the app, head to the Xposed Framework app and check the box next to Amplify, then reboot your device. Once it starts up again, open the Amplify app itself. It'll run through a few checks to make sure everything is working as it should.

2. Let it go it alone

When the checks have run, the app will have a look at what's running on your device, both in the foreground and background. It will then sort out a series of settings designed to save you as much power as possible. You can check these from the menu located in the top right.

3. Play with the look

That's all there is to it really. You can go deeper into the app, customising which things it limits manually to try and save some juice, but it's best to make sure you know what you're stopping before you go that far. You can tweak the look in settings too.

More iOS 9 feature apps

Flipboard



iOS 9 comes with a personalised news app. You can get something similar by downloading Flipboard: Your News Magazine for free. Sign in with your Google account and set up your news preferences.

» **Price:** Free
» **Android:** Varies with device

Google Keep - notes and lists



iOS 9 is getting a better Notes App. Android already has one with Google Keep - notes and lists. Add reminders to your notes, share info from any app and arrange everything with colour codes.

» **Price:** Free
» **Android:** 4.0 and up

Maps - Google Maps app



The new Apple Maps app on iOS 9 lets you search for routes that use public transport. The Google Maps app for Android has already had this function available for a good length of time.

» **Price:** Free
» **Android:** Varies with device

Google Now



The new search bar in iOS 9 does a lot of things that Google Now has been doing for a pretty long time. Such as offering personalised searches, local information and more.

» **Price:** Free
» **Android:** 4.1 and up

Lock Screen OS 9 - iPhone 7



An app that changes your lock screen to one that looks remarkably like the stock iOS one available on iPhone 7. You can enter a six number passcode to get the feel just right.

» **Price:** Free
» **Android:** 3.0 and up

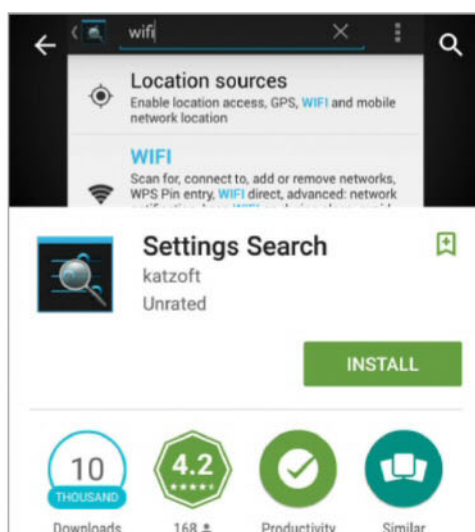
“Your Android device should be looking pretty iOS-y”

Find the settings you're after

Use Settings Search to get one of iOS 9's least flashy but most interesting new additions: finding your settings quickly and without hassle

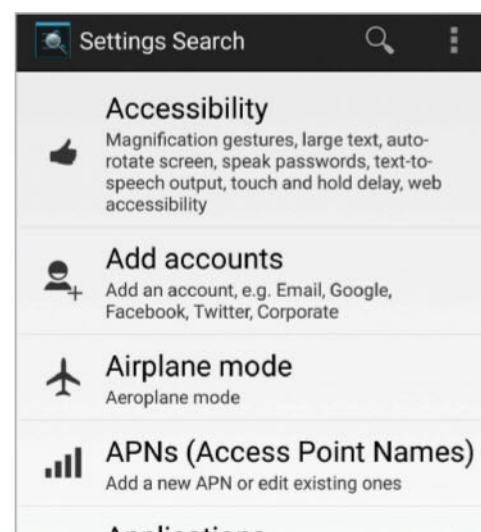
Another interesting new feature of iOS 9 is one that's unlikely to capture the imagination or the headlines, but could prove surprisingly useful all the same. It's essentially a search bar for your settings, letting you quickly access the options you're after by typing rather than scrolling through lists trying to find the right one.

Thankfully, it's also possible on Android with a free app called Search Settings from the Google Play Store. It's not as polished as its iOS 9 counterpart, but it does a pretty similar job. It won't add a search bar to your settings, but you can search through them and the app links out directly to the options you want.



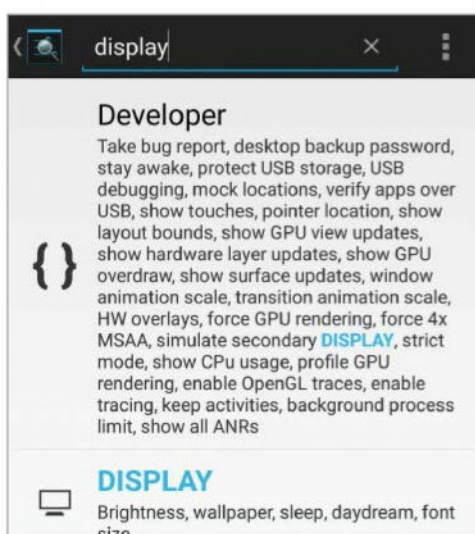
1. Download the app

First thing's first, head to the Play Store and download the app. It's free and it doesn't require any special permissions to run on your device. Once it has installed, which shouldn't take long at all, open it up and have a look around.



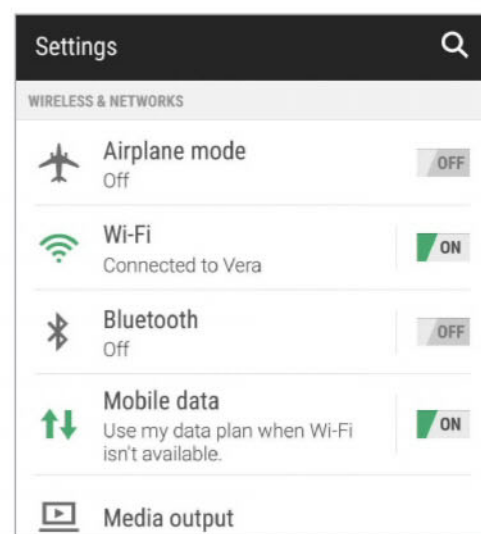
2. The first page

The first page of the app is a neat breakdown and explanation of the main settings on your device. You can swipe through to look for the one you want or, if you prefer, tap in the search bar and just type in your settings query.



3. The search results

When you type in your query, you'll see a list of all the times it's mentioned in your Settings and you can choose which of them you'd like to head to. It's a neat idea and means some of the more obscure terms are actually much easier to find.

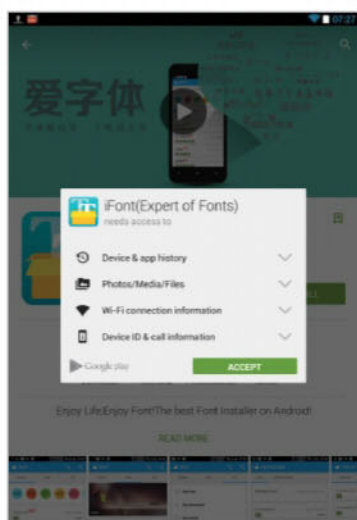


4. Jump to settings

If you'd rather jump straight into your settings app, you can do it by tapping on the menu button in the top right corner and choosing the relevant option. The time to leap between the two is minimal, making Search Settings a really useful addition.

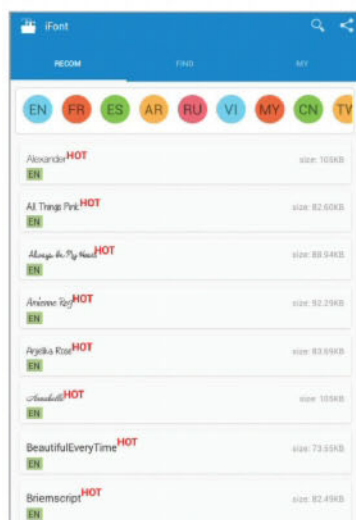
Use iFont to get iOS fonts

Download this Xposed Module to get something close to the Apple Watch font used in iOS 9



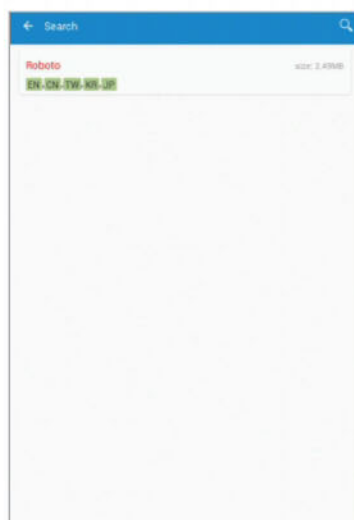
1. Grab the module

First up grab the free iFont (Expert of Fonts) module from the Google Play Store. Follow the same Xposed Module set up as usual. Once your device has rebooted, open the app. You'll see a lot of new and hot fonts on the front page, but don't worry about those just yet.



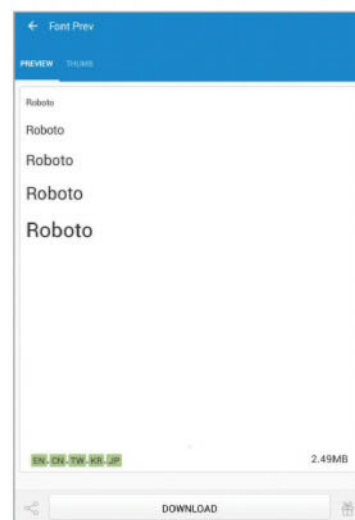
2. Search for Roboto

The new San Francisco font Apple is using for its iOS 9 operating system is very similar to the Roboto font that is now available on this app. It's not a perfect match, but only someone looking very closely is going to notice the difference. Type Roboto into the search bar and tap enter.



3. Download the font

Tap on Roboto from the list of your search results that comes up, then tap on the download button located at the bottom of the screen. It's only a small file so it shouldn't take too long to download at all. When it's done, the button at the bottom should change to Set.



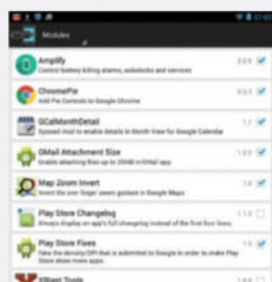
4. Tap the button

Tap the button marked Set and the app should make the necessary changes. It might take a while, but once it's done the majority of the fonts on your device should now be Roboto. Combined with the other hints, your Android device should be looking pretty iOS-y right now.

Use XBLast settings for cursor control

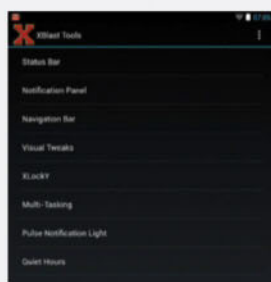
Use your volume keys to have greater control of your cursor when typing

Cursor control is one of the bugbears of touchscreen typing. Who hasn't struggled trying to drop the cursor in just the right place to go back and edit a spelling mistake or the odd predictive text mishap? Well iOS 9 tries to fix this by letting you use two finger swipe and turn the keyboard into a touch pad, which quite frankly sounds horrid and will probably annoy a lot of quick-typers as well. On Android there's a much more sensible solution in the shape of XBLast Tools-Xposed that lets you set the volume keys to move the cursor left and right. You'll need a rooted device and the Xposed Framework installed.



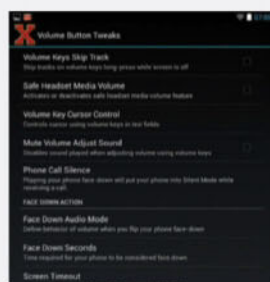
1. Set the module up

Once you've downloaded the module, follow the usual Xposed Framework procedure to get it set up. Head to the Framework app, check the box next to the XBLast Tools module and then soft reboot your device to allow the changes you've made to take hold.



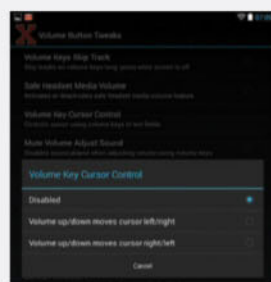
2. Go into the app

Once your device has restarted, head to the XBLast Tools app in your app drawer and tap on it to open. You will then be greeted by a large list of settings you can change. Scroll down the list and tap on the Volume Button Tweaks option.



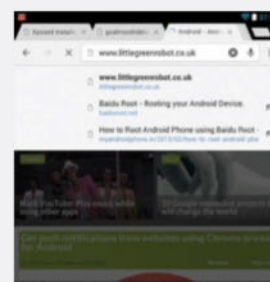
3. Many possibilities

You'll now see another list that explains the various actions you can now make the volume keys perform. The one we're most interested in is the third one down – Volume Key Cursor Control. Tap on that to set up the cursor control the way you'd like.



4. Your preference

The default setting is Disabled and there should be two other options below that. Choose the one that will suit you best. You can always come back and change things around if you decide you don't like the directions the cursor moves under the new settings.



5. Check it works

Head back out of the XBLast App and find somewhere to type. Push the volume buttons up and down and, if everything has worked, your cursor should dance off left or right depending on the choices you made. Much easier than tapping and hoping for the best.

status update

Which devices are best for the hacking scene?

ZTE Blade S6

Rooted? Yes

Active Development:

Medium

The Blade S6 boasts great specs and a low price. But its MiFlavor UI is Marmite for many, so why not try hacking it and adding a new ROM?



LG G4

Rooted? Yes

Active Development:

High

The LG G4 has not been available for long, but it was quickly rooted. Unlock it now to try out new features, ROMs and apps.



Nexus 7

Rooted? Yes

Active Development:

High

Google didn't release Android M for the Nexus 7, so check the XDA Forums for Xposed modules that imitate M features.



Moto 360

Rooted? Yes

Active Development:

High

Motorola keep slashing the price of the Moto 360, so pick one up now it's cheap to experiment with smartwatch hacks.



Tips & Tricks

Can you hack your Chromecast?

There's a bustling community of Chromecast hackers on **XDA-Developers.com**, but unfortunately not everyone is able to join them. At present, only older devices that have not been modified with OTA updates from Google can be unlocked, something that has made the older Chromecasts quite sought-after.

Once unlocked (you'll need a Teensy 2.0 or Teensy++ 2.0, an OTG cable and a USB stick with over 1GB storage), your Chromecast can then be modified with the Team-Eureka custom ROM, which enables some hidden settings.

Different software is required for Chromecast rooting, depending on

which build of the Chromecast software is on your device. To find out which rooting utility you'll need, check the serial number on the box or the device itself. Then reference this when searching or posting on XDA-Developers to find the right method for unlocking your Chromecast - if you can...

Watch region-blocked TV

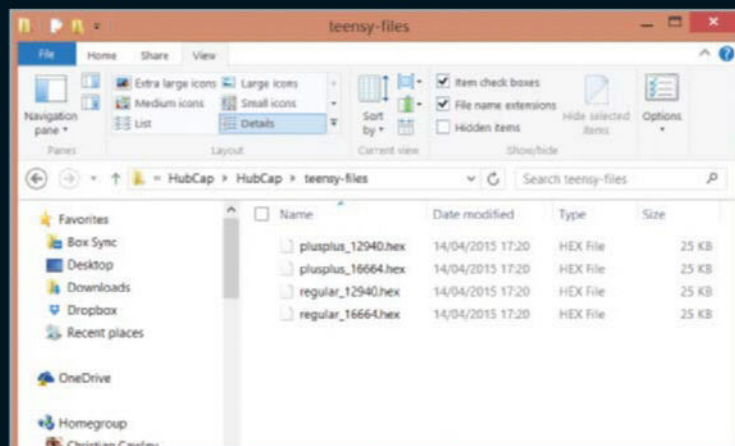
Most of the popular subscription streaming services are region-blocked. This means that you get different content on Hulu or Netflix in the USA than you do in the UK. If this is something that is annoying you and you want to use your subscription to access movies and

TV shows that your American friends are enjoying, you'll need to employ a VPN. This might be on your desktop computer if you're streaming from the Chrome browser (in which case use the Hola unblocker extension).

However, if you're casting from Android, head to <http://goo.gl/Miw1ls> and pick up a pair of American DNS addresses. You can then use a DNS changing app such as Override DNS (£1.49) to add these addresses to your device.

You can now view content usually only seen by overseas viewers on your chosen subscription service and cast this to your Chromecast.

Be aware, Netflix's terms and conditions state that they can terminate your contract if they discover you circumventing geo-fences. Use VPNs at your own risk.



Not all Chromecast devices can be unlocked

Upgrade to HD

If you're streaming to your Chromecast from your Chrome browser using the Google Cast extension, you might have noticed that the picture quality isn't quite what you expected. Begin by checking the quality of the clip you're playing and if everything is alright there, tweak the settings of the extension.

Do this by clicking the Google Cast button on your browser toolbar and selecting Options. As long as Chromecast is switched on, you'll see it listed under Available Cast devices.

quick hacks

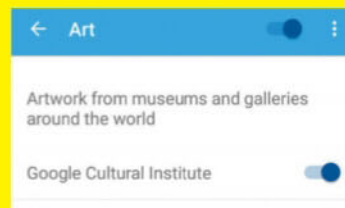
Get stunning backgrounds on Chromecast

Rather than staring at the drab Chromecast background every time you switch on, why not liven things up with some random wallpapers from Google and NASA? Alongside Chromecast's time and weather information, these images look stunning.



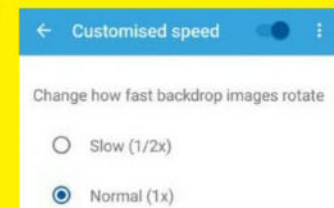
1 Open Chromecast app

Setting a background for Chromecast is an option that many overlook. Start by opening the app on your phone or tablet, ensuring that Chromecast is switched on and online. Tap the Settings gear.



2 Activate backdrop

In the Settings screen, tap Backdrop then tap Art and Satellite Images to enable them. Make a choice about what types of images you want. Personal Photos stored on your Android can also be added.



3 Set speed

Select Customised Speed to adjust how often the images are rotated. Chromecast will now begin to display a series of high resolution images that you can enjoy between streaming videos.

Share your tips

Got a great Chromecast hack? Let us know!

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[/littlegreenrobot](#)
Like us on Facebook and join our online community

>>twitter

[@lgrobot](#)
Follow us on Twitter to send us your tips & tricks

>>email

qa@littlegreenrobot.co.uk
Discovered anything good about your Android phone? Let us know!

Select it to view the options Extreme, High and Standard, which apply to the three resolutions, 720p high bitrate, 720p and 480p.

Tweak this to get better resolution images, but be aware that doing so can slow down the streaming of the video. The default 720p option is usually the optimum.

Switch on your TV with Chromecast

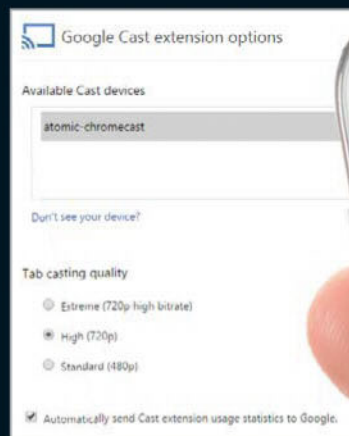
More and more TVs have support for HDMI-CEC, technology that (among other things) makes it possible for you to send commands to your TV via the HDMI port. Known by Samsung, Sony and Panasonic as AnyNet+, BRAVIA Link and VIERA Link respectively, the technology can be used to switch on your TV remotely via Chromecast.

Start by switching on your Chromecast-connected TV manually and browsing the settings menus as HDMI-CEC is not enabled by default. You'll need to check what HDMI-CEC has been branded as on your TV so you know what you're looking for.

To ensure this works once enabled, make sure you're using the Chromecast's packaged power adaptor and cable, rather than powering it from the TV. Otherwise, your Chromecast won't be receiving any power to instruct the TV to switch on!

Enjoy Chromecast with headphones

Perhaps you would like to watch a movie very late at night or perhaps your parents are hosting a fancy dinner party and you need to keep

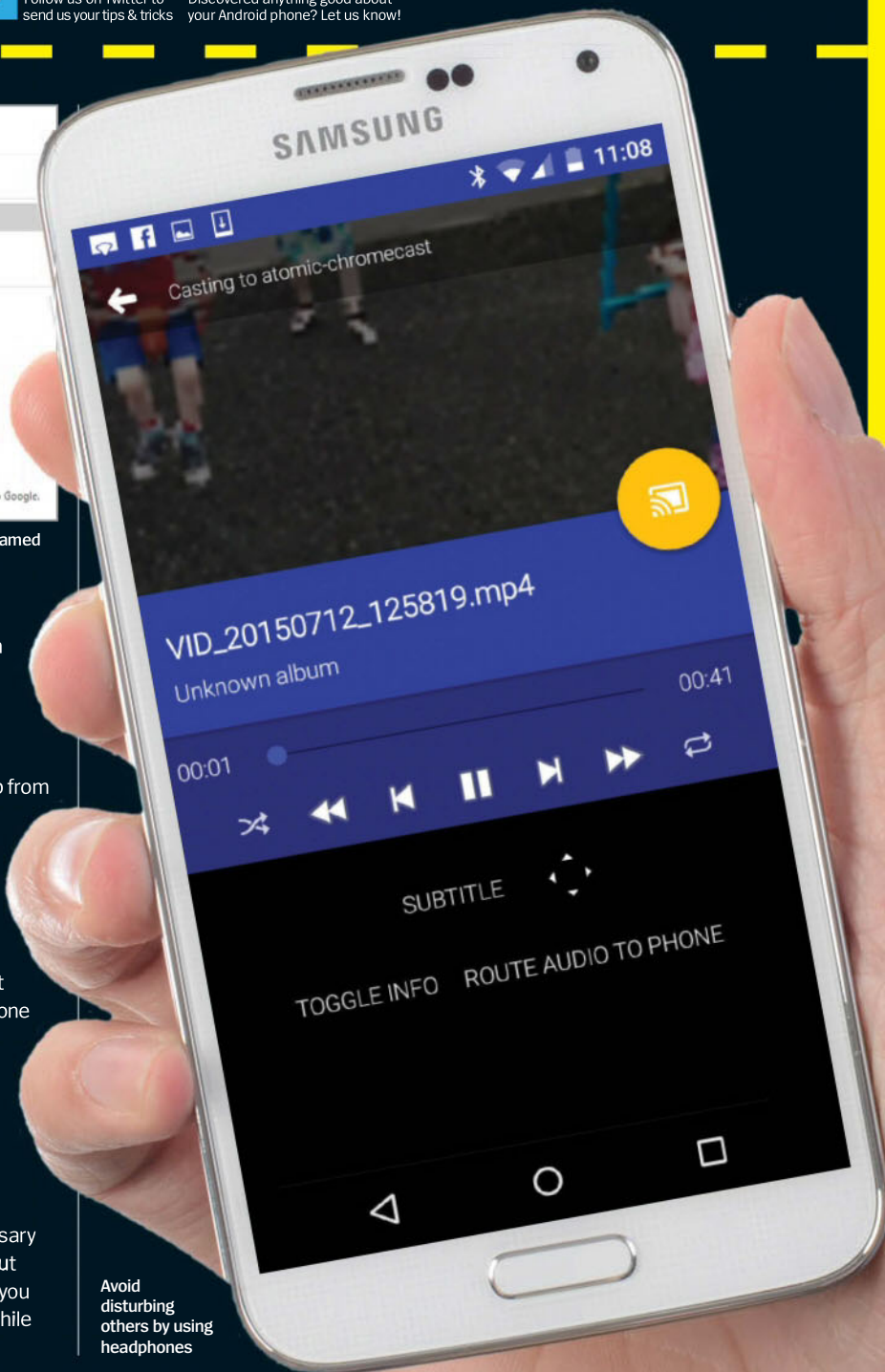


Improve picture quality of videos streamed from your PC with Google Cast

the noise down. Watching your favourite streamed TV show on your tablet is an appealing option, but one that would mean forfeiting the big screen cinematic experience.

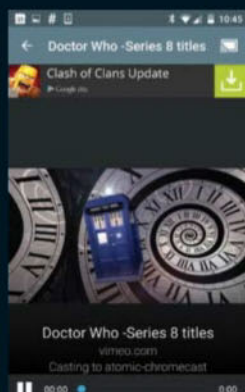
Using the free LocalCast app from Google Play, you can enjoy *Captain America: The Window Soldier* or any video you would like to stream to your TV (either through an online service or a file stored on your device) via Chromecast and listen to it through your phone or tablet. Begin by plugging in your headphones (to avoid disturbing the dinner party) and start streaming.

On the Now Playing screen, tap Route audio to phone. You can then enjoy the movie, adjusting the volume as necessary (and within safety levels) without disturbing anyone nearby. And you get to enjoy *Captain America* while missing your parents' party.



Avoid disturbing others by using headphones

Hacking the easy way Get great new features without getting your hands (too) dirty



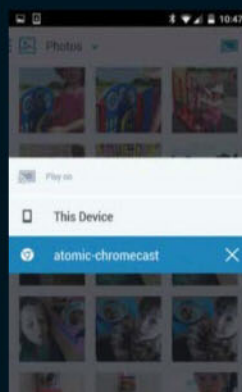
VEGA Cast

Price: Free

From: Google Play

Need root? No

If you are not on Android Lollipop and you can't cast the full Android display (or prefer not to), then VEGA Cast is an app that can stream popular video services such as Vimeo, Twitch and uStream directly to your device.



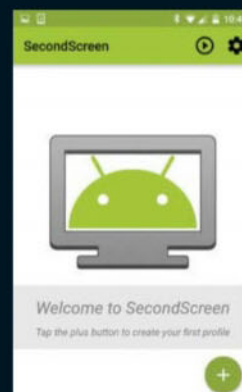
CastBox

Price: Free

From: Google Play

Need root? No

Want to enjoy media that's stored on your phone or on Facebook through your TV so you can share it with all of your friends and family? Then you can try CastBox to share and stream content via Chromecast within seconds.



SecondScreen

Price: Free

From: Google Play

Need root? Yes

Want to use your Android as a PC? You can change your device's resolution to mirror your PC. All you need is a Bluetooth keyboard, a mouse and SecondScreen to cast your device display to your TV. Multiple profiles are also available.

Works with » Android 5.0 and up Difficulty » Advanced

Run Android 6.0 on your Sony Xperia

For the first time, you can preview next-gen Android on your Sony Xperia using FreeXperia

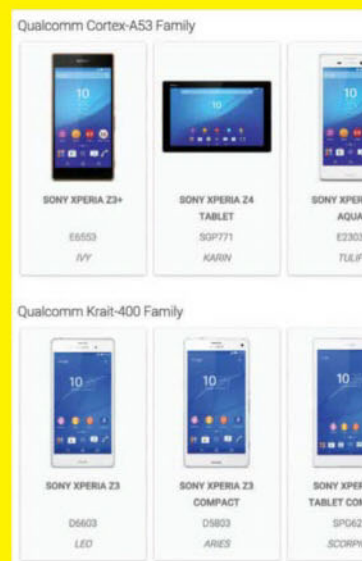


One of the highlights of owning a Nexus device is that it gives owners early access to the latest version of Android in the form of preview images. However, for the first time, Sony Xperia users can also get in on the fun and sample Android Marshmallow early. Sony have provided instructions on how to build images for unlocked Xperia devices. They require a full download of AOSP and a suitable machine for building Android from scratch. To make the process easier for normal users, the FreeXperia project is providing pre-built images for a host of Xperia phones and tablets.

The builds are labelled as 'Developer Previews' and it's important to note that these aren't suitable for use as daily drivers. As the name suggests, they are designed for developers to get an early look at Android 6.0.

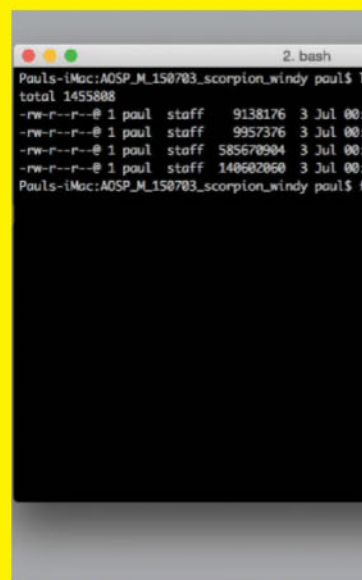
A work in progress, Android contains lots of bugs and there is no phone support. The provided images also don't include the Google suite of apps (although these can be flashed separately).

In order to use the images, your device's bootloader must be unlocked. On Sony devices, it's particularly important to understand the implications of this. Unlocking the bootloader irreversibly wipes the DRM keys from the device, which can render a number of your device's features inoperative, including BRAVIA engine, Sony Entertainment apps and PS4 Remote Play. After flashing the Android 6.0 preview you can of course return to a stock build, but these features cannot be restored.



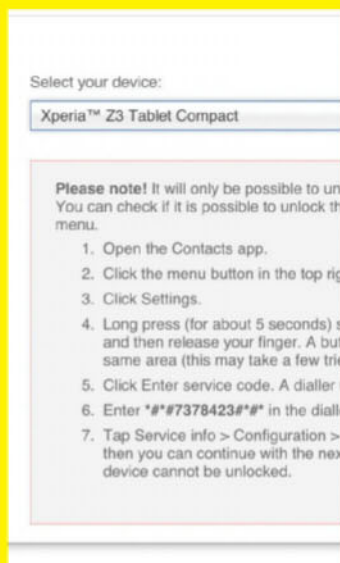
1 Find device code-name

On the FreeXperia (FXP) website, devices are referred to by their code-name. For example, the Z3 is known within Sony as the 'Leo' and the Z3 Compact as the 'Aries'. In order to find the code-name for your device, visit the Active Devices page at fxpblog.co/active.



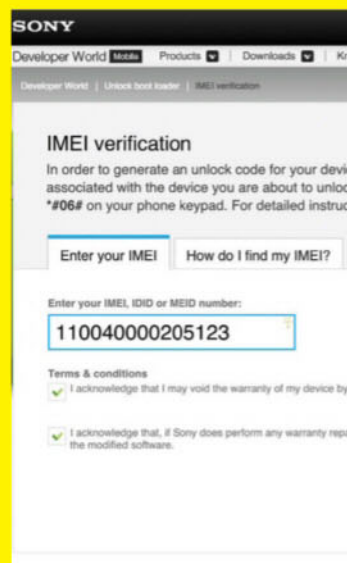
6 Flash the ROM

After downloading the ROM, extract the ZIP file on your computer, use adb reboot bootloader to enter bootloader and flash each of the images in turn to your device. Use 'fastboot flash partitionname filename', eg 'fastboot flash system.img'. When complete, use 'fastboot reboot' to boot your device.



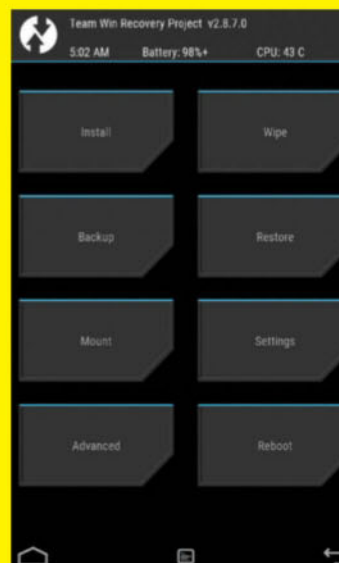
2 Check your device support

Now that you know your code-name, check whether an Android M build is available for your handset as not all devices are supported. Visit the download list from the FXP Android M Preview page (fxpblog.co/aosp/aosp-m-preview) and look for a suitable filename.



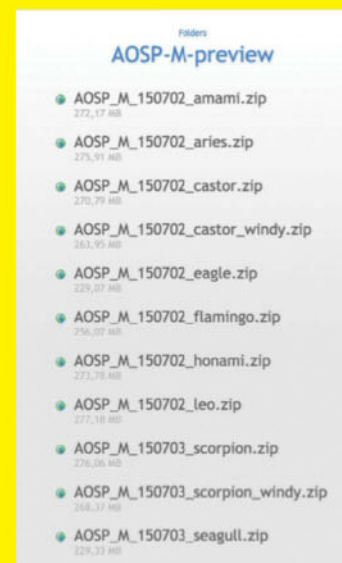
3 Unlock the bootloader

Now that you've read the caveats above, if you're happy with the side effects (that it may void your warranty), you can proceed. Full steps to unlock the bootloader are on the Sony website at developer.sonymobile.com/unlockbootloader/unlock-yourboot-loader.



4 Back-up data

If you wish to back-up your data before you install, you can use a custom recovery, such as TWRP or PhilZ, downloadable from your device forum at XDA Developers. Note that this data won't be suitable for restoring on the M build, but it can be restored at a later date if you return to the stock ROM.



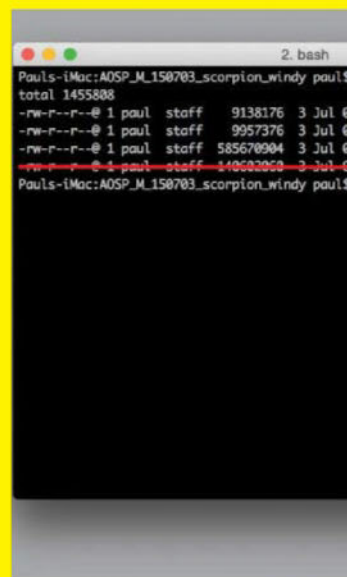
5 Download the FXP M build

FreeXperia provide Android M AOSP builds that are built nightly, provided there are code changes that would affect the device in question. The latest version can be downloaded from fxpblog.co/aosp/aosp-m-preview or mdc.gd/sonympreview listed by code-name and build date.



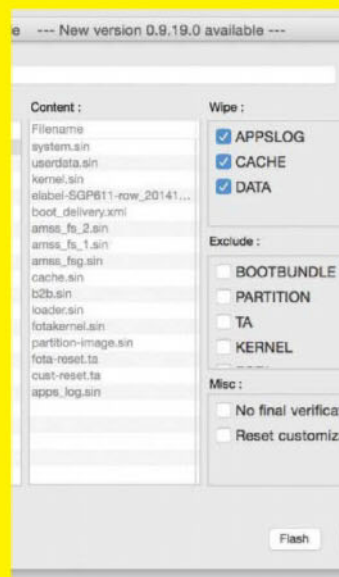
7 Option to install GApps

Although the FreeXperia ROMs don't include Google apps, they can be flashed separately. To download the GApps build, head to forum.xda-developers.com/android/software/reborn-gapps-5-t3074660. Install the latest full package using a fresh custom recovery install.



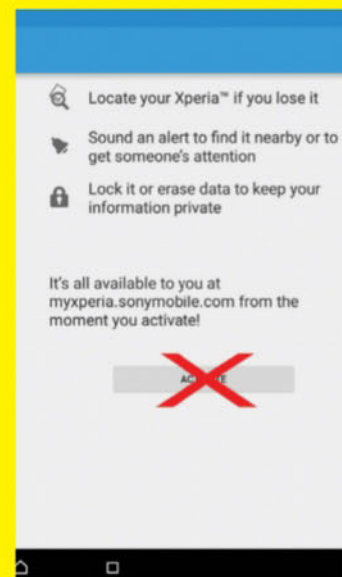
8 Flash any future updates

After you have installed the initial ROM, new nightly builds can be installed straight over the top, just skip flashing the user-data image to avoid wiping. However, it is worth keeping a copy of the previous version as nightly builds are prone to random problems.



9 Revert to stock status

In order to return your device to a stock status, you should use the Flashtool application for Windows, Mac or Linux, downloadable from flashtool.net, together with the correct FTF file for your device. These are in the appropriate device forum at XDA-Developers.com.



10 Don't enable myXperia

After you have unlocked your bootloader, do not activate the 'myXperia' theft protection feature if your device supports it. It protects your device at a low level, but is incompatible with unlocked bootloaders. Activating it could render your device unuseable.

Works with » Android 4.3 and up Difficulty Intermediate

Hide your root access from prying apps

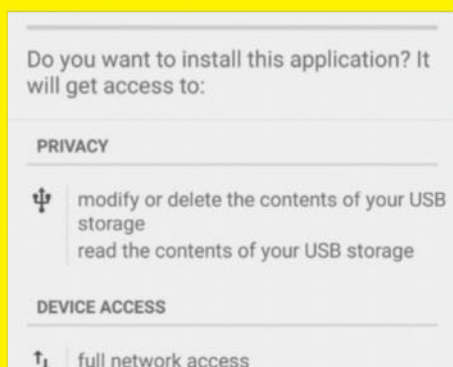
Just because you rooted Android shouldn't mean you can't use your favourite app

You've rooted your phone or tablet and can now enjoy previously unavailable apps and additional functionality. The problem is, some of the apps you were using previously no longer run.

In order to maintain the integrity of their products, some app developers opt to disable their apps (or restrict them) if they're found to be running on a device that has been rooted. If you've spent some time trying to get your device rooted (we all know

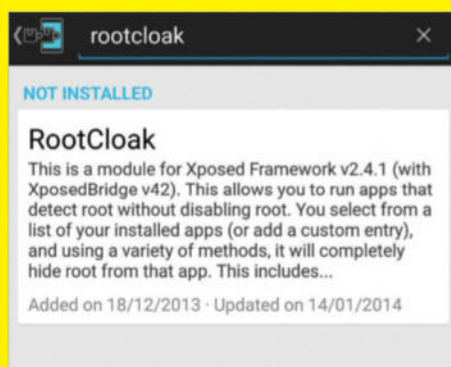
that it isn't always easy) then this can prove particularly frustrating.

To work around this, you will need to fool these apps into thinking that the phone has not been rooted at all and for this you will need RootCloak Plus, which requires the Xposed Framework. While there are other solutions available (such as the Hide my Root app by Amphoras on Google Play), RootCloak will give you the best results.



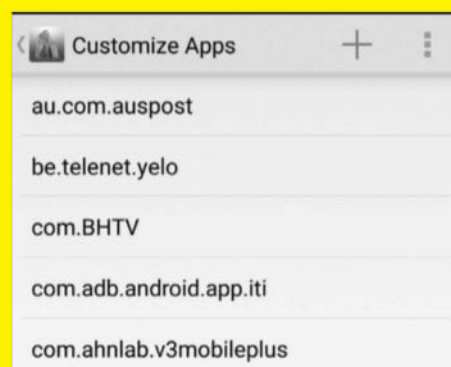
1 Ensure Xposed has been updated

Before installing RootCloak, ensure your Xposed Framework is up to date. You need v2.4.1+ with XposedBridge v42+ installed. Open the app, go to Framework> Install/Update to confirm this and wait while the framework updates.



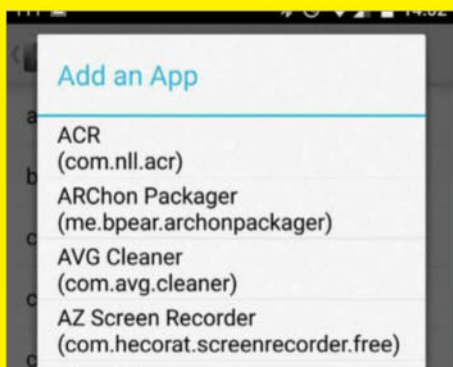
2 Install RootCloak

Next, browse Xposed's Download section for RootCloak and install by tapping Download. Follow this by rebooting your phone: tap Framework> Reboot. You will now be able to start configuring RootCloak to hide or cloak your root status from certain apps.



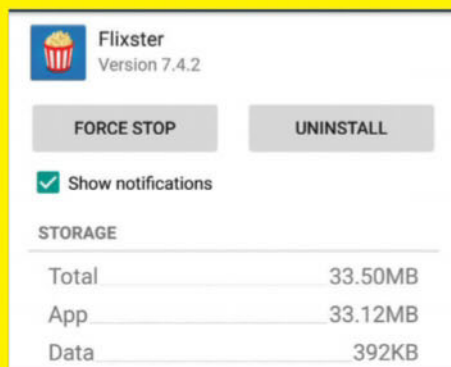
3 Problematic apps

The chances are that any apps that are causing you trouble have already been included in RootCloak's list. This means you don't need to configure the app! To check, open the app that was complaining about your rooted phone and see if it displays a nag message.



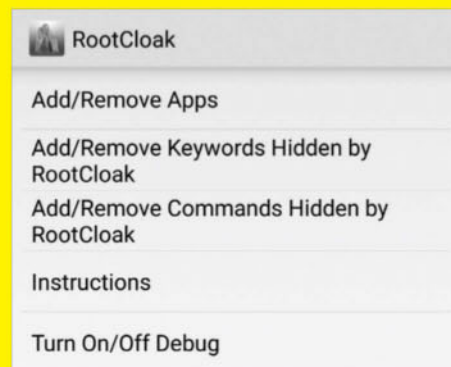
4 Configure RootCloak

Xposed-compatible apps can be opened from your Android launcher without opening Xposed Framework first. Open RootCloak from the launcher and view the menu. You'll mostly use Add/Remove Apps for this, but if the app you want to block isn't listed, tap + to add it.



5 Stop blocked app

If the app you're trying to run continues to nag you about your phone's root, it's likely that you will need to stop it. Open Settings > Apps, find the app in question and tap Force Stop. This will require the app to restart and check permissions before launching.



6 Last resort

Using RootCloak should help you persuade root-phobic apps to run, but if this doesn't work check the Debug log where you should find answers. With persistent issues, run the app in a non-rooted environment, maybe an Android tablet or switch to a more usable app.

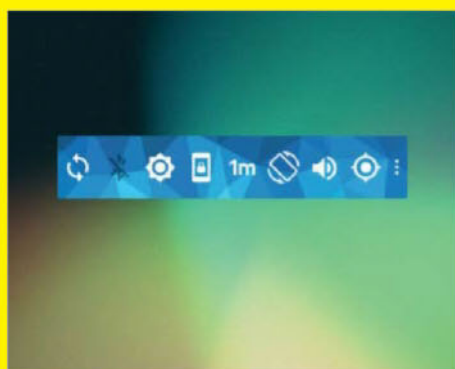
Works with >> Android 4.0 and up Difficulty Easy

Use Action Widgets to toggle settings

This Xposed module will add quick setting widgets to your homescreen

Quick access to settings can sometimes be a bit of a pain on Android devices. Especially if they're not included in the drop-down settings in your notifications bar. Action Widgets offers a handy tool to get around this. You can add widgets to your homescreen to quickly change a huge variety of settings without having to go anywhere. There are some settings you can change without needing a rooted device, but if you want to get the most out of

the app then you'll need Xposed Framework and a rooted phone or tablet. You can download the app either from the Play store or use the Xposed Module Repository to find it. Both of the options won't cost you a penny, so whichever you choose you're not going to be out of pocket. That is unless you choose to donate to the developer. This app is a useful addition to help customise your widgets and the settings on your phone.



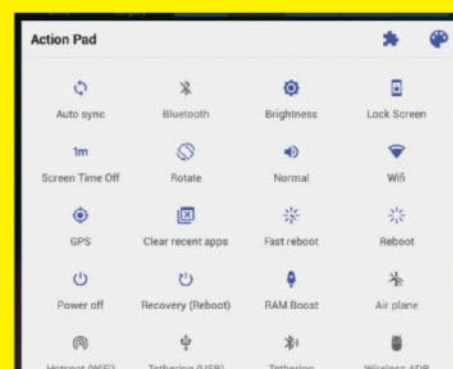
1 Download the app

First up, grab the app however you want to. Once it's installed, you'll need to follow the usual Xposed Framework procedure of activating the module and then rebooting your device. Once it has rebooted and installed, open up the app for the first time.



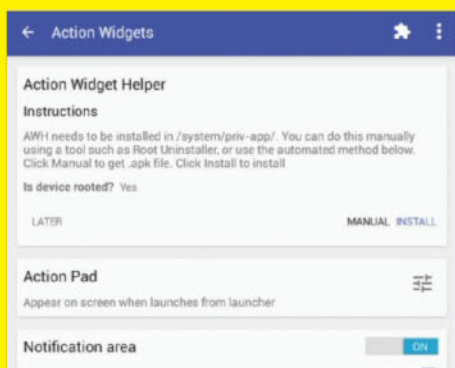
2 The big list

Before you get to the main menu, you'll see a list of all the settings that you can add to your widgets. You can also toggle them directly from here, so you will have another option available if you would like to jump in quickly and see most of your settings.



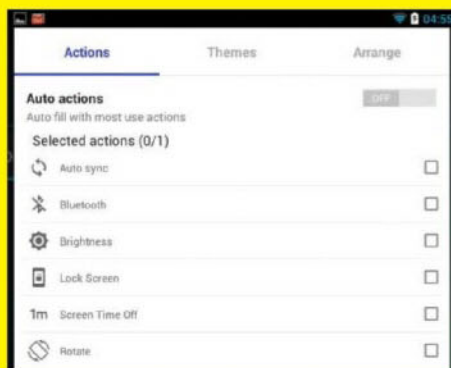
3 The main menu

Tap the palette button in the top right corner and you'll be taken to the main menu. There are a variety of different settings you can play with, including installing the Action Widgets Helper and setting whether you want quick actions to show up in your notifications bar too.



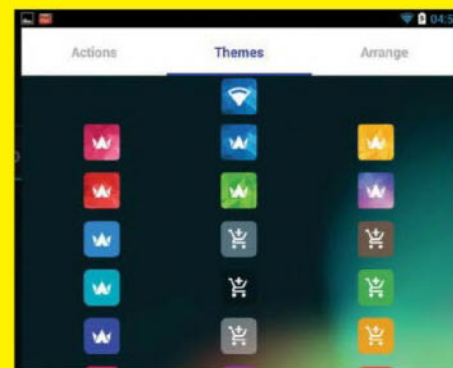
4 Place a widget

To place a widget on your homescreen, follow the procedure for your device. There are three size options available, but you can place as many of the widgets on your screens as you can fit. Tap the one you want and then move to the next section.



5 Choose the widgets

Depending on the size of the widget you have chosen, you can now add a number of different toggles from your options. Look down the list to see which ones you would like to add. You can tap to auto-fill it with your most used actions as well.



6 Choose a theme

Last but not least, choose a theme. When you've selected that, your widget will automatically be added to your homescreen. Some actions will need you to activate device administrator. Just tap the activate button. To add more widgets, just repeat the steps.

Works with » Android 5.0 and up Difficulty » Advanced

Format your SD card for more memory

Trick your device into using an SD card as extra internal storage

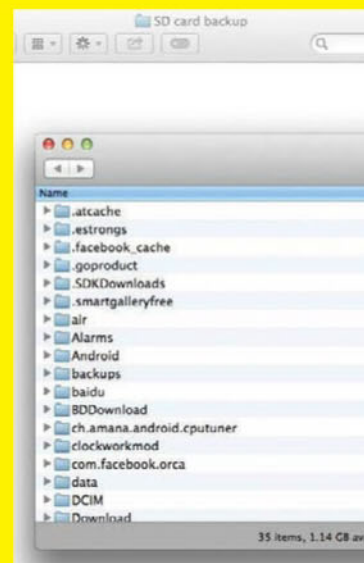
Do you feel like you're constantly deleting apps, photos and videos from your Android device, in order to free up memory? Even if you're not getting a 'Not enough memory' error every time you try to download a new app, your device may be more sluggish than it was before because you're running low on internal memory.

While you can free up memory by deleting unwanted apps or media, this isn't a long-term solution. If you're forever snapping photos or trying out new apps, then chances are you're going to reach a point where your device simply doesn't have enough memory to do everything you want.

One possible solution is to format an SD card so your device recognises it as extra internal memory. You can then move apps to the memory card, freeing up precious internal space in the process. However, before you can use an SD card as internal storage, you will need to partition it.

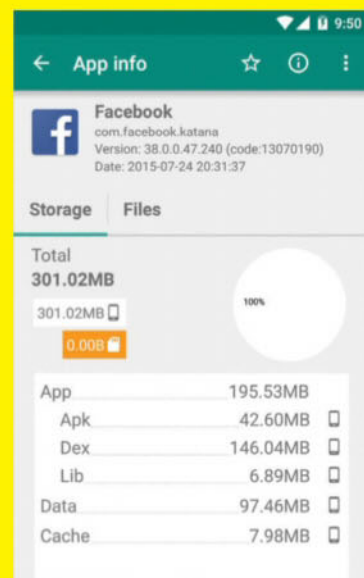
This tutorial will show you how to partition using the Disk Utility, that comes pre-installed on Mac, and the Windows MiniTool Partition Wizard 9.1, which you can download for your PC from partitionwizard.com.

You'll then use the free Link2SD app to transfer installed apps to your SD card. This solution will require a rooted device, although if you haven't achieved root you will still be able to use the Link2SD app to get a limited memory boost.



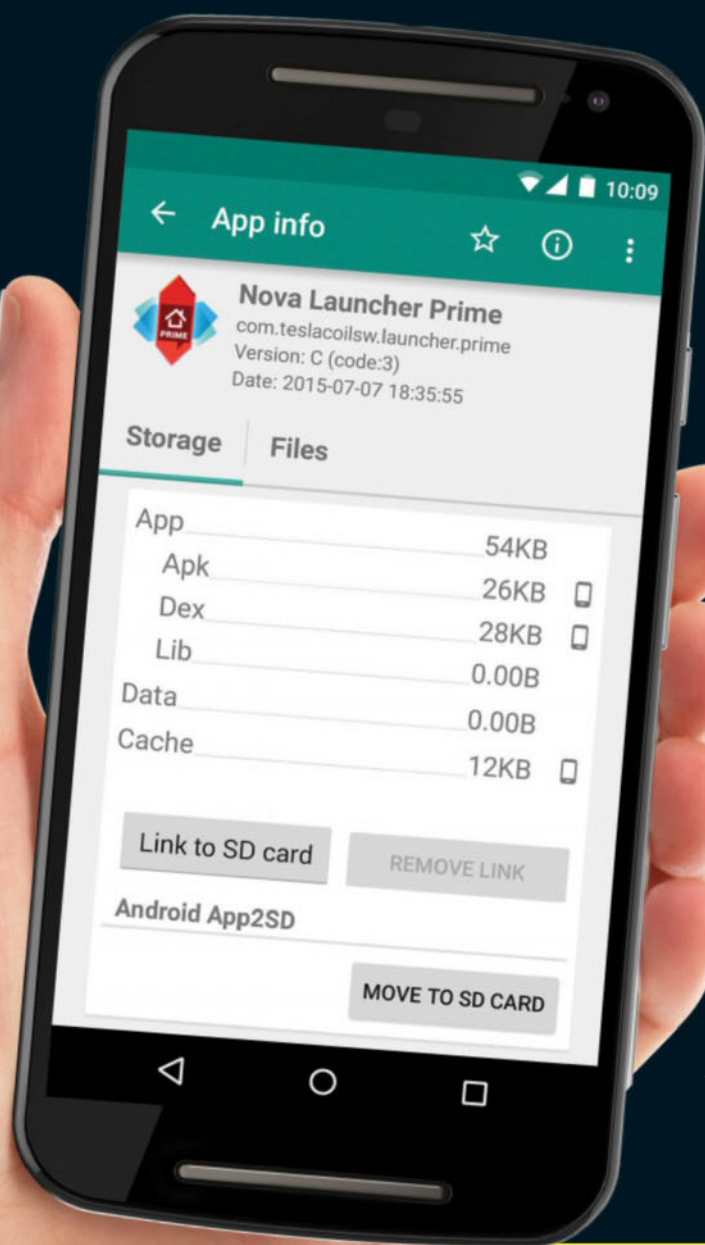
1 Create a backup

Insert the SD card you want to partition into your computer using a card reader or an adapter. The partitioning process will wipe all data from your SD card. So make sure that you backup all of the files you want to save at this point before you begin the partitioning process. Otherwise it could be lost forever!



6 Launch and reboot your device

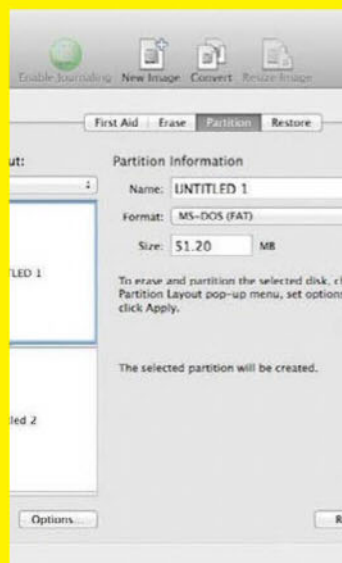
In the pop-up that appears, select the format of your second partition (FAT32 or Ext2). When prompted, reboot device. Re-launch Link2SD and you'll see a list of apps installed on your device. Select an app and you'll see information about how much space this app is using.





2 Partition on Mac

If you're a Mac user, open your Disk Utility tool. Select your SD card from the left-hand menu. Click Erase then open the Format drop-down menu and select FAT. Click Erase and confirm you want to remove all data. Select Partition, open the Partition Layout menu and choose 2 Partitions.



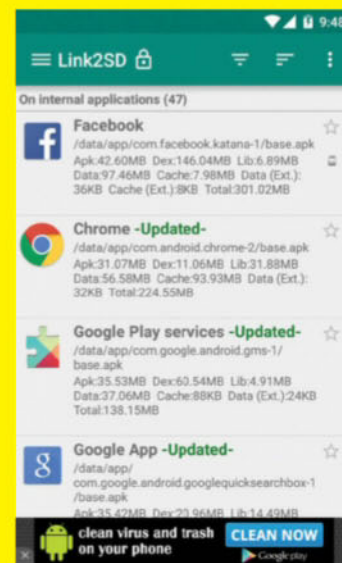
3 Create your second partition

Give the first partition a name, set its size to around 90% of your SD card's capacity and set the format to FAT. Then name your second partition, set the format to FAT and assign it the remaining space available on your SD card. Finally, click Apply to confirm.



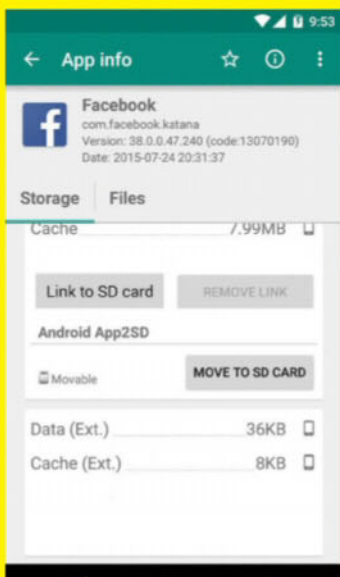
4 How to partition on Windows

Launch MiniTool Partition, select your SD card and delete all partitions. Create two partitions: set the first to Primary, FAT32 and assign it 90% of the SD's memory. Set the second partition to Primary, Ext2 and assign it to the remaining memory. Click OK and Apply.



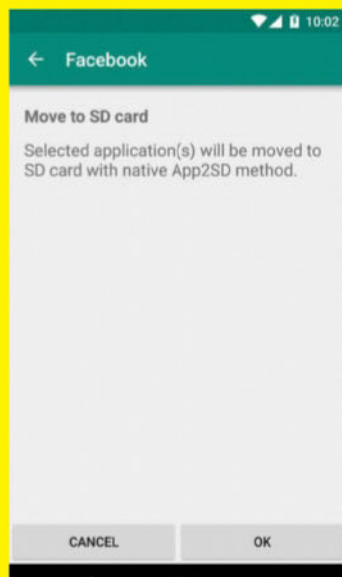
5 Download Link2SD

Remove the SD card from your computer and replace it in your device. At this point, you can attach your device to your computer and restore any of the files you lost during the formatting process. Download Link2SD from the Google Play store and open the app.



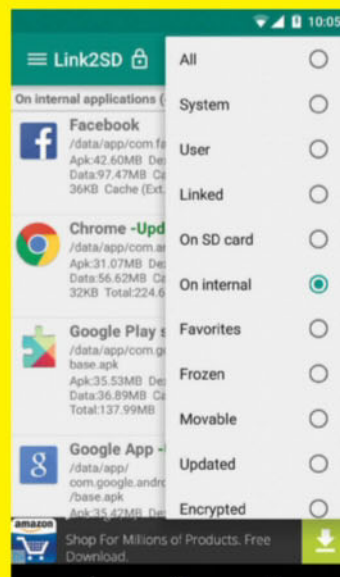
7 Link to SD card

If you do decide to move this app, you have several options. Click 'Link to SD card' to move the app and related files to your second partition. It creates a link where these files originally existed in your internal memory, so your device will still assume that these apps are installed internally.



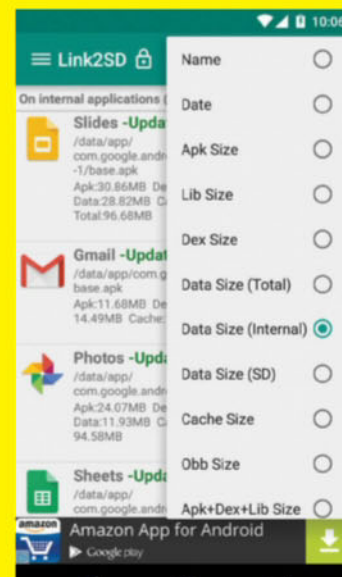
8 Move to SD card

The other option is 'Move to SD card'. You can access this option on non-rooted devices as well, even if you haven't partitioned your SD card. However, the drawback is that not all apps can be moved to your SD card in this manner and the feature can't be supported on all devices.



9 Review your device's apps

If you ever want to double-check which apps you've moved, return to the main Link2SD screen and tap the funnel icon in the toolbar. You'll find all the apps you've moved using Link2SD under On SD Card. To see all apps you've linked to your SD card, select Linked.



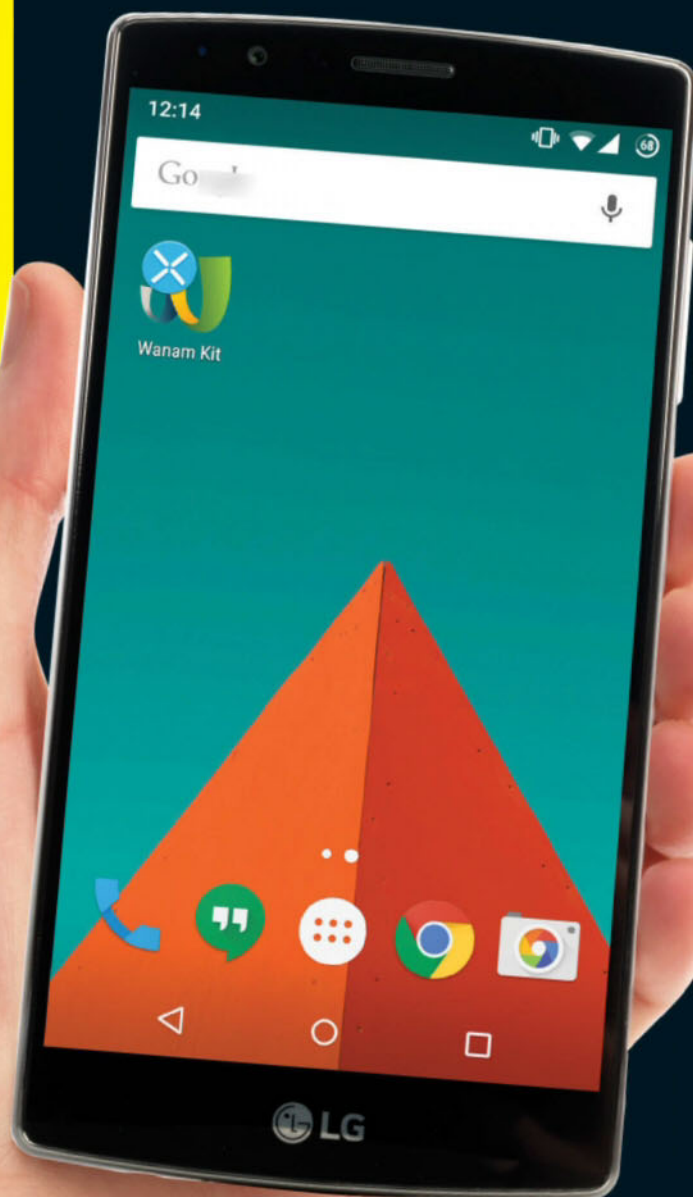
10 Where to Start?

If you're unsure where to start with relocating your apps, you can see all moveable apps by tapping the funnel and selecting Moveable. You can also zero in on particularly memory-hogging apps by tapping the second lined icon in the toolbar and choosing from the various Size options.

Works with » Android 4.4 and up Difficulty » Intermediate

Redesign AOSP with Wanam Kit

Better known for customizing TouchWiz, Wanam Kit also works with vanilla Android too



There are countless Android ROMs out there, but unless you build the ROM yourself, chances are there are always going to be one or two things you would like to change.

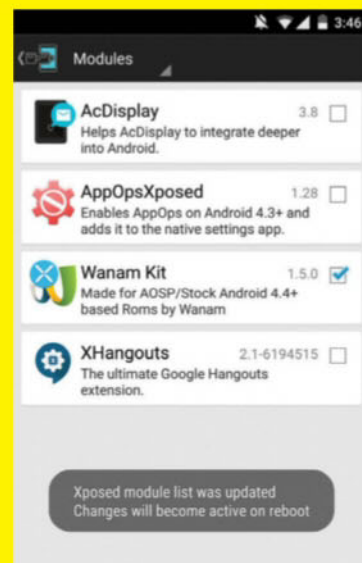
Wanam Kit originally found fame as a means to de-bloat Samsung's TouchWiz user interface, which was notorious for its excessive bloatware until the Galaxy's S6 feature cull.

However, Wanam Kit also works with stock ROMs as the Xposed module lets you make a wide range of tweaks to any ROM based on the Android Open Source Project (AOSP).

These customisations include visual changes such as replacing the standard battery icon, to more functional changes such as disabling Lollipop's new heads-up style notification system.

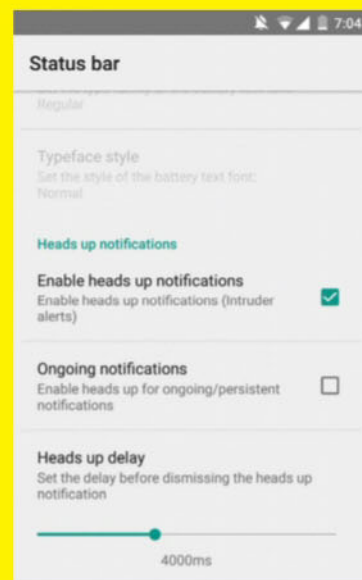
Once you've installed Wanam Kit, you can make your changes by exploring the app's various menus and then disabling or enabling the different options as desired. Before any of these changes become active, you need to reboot your device, so the only downside is that if you want to experiment with a few different changes then you may need to reboot several times before you're happy with the end result.

This module requires root access and the Xposed framework. If you haven't installed Xposed, Lollipop users can find the necessary files and instructions at the XDA Developer thread goo.gl/DFXwGg. If you're running an earlier version of Android, you can install the Xposed framework via an in-app updater, available from goo.gl/PAGTpi.



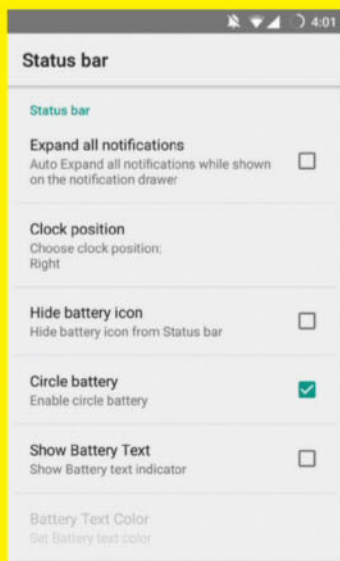
1 Activate Wanam Kit

Download Wanam Kit (Xposed) from the Google Play store. Open your Xposed Installer, tap Modules and make sure that Wanam Kit is selected. To activate this module, reboot your device. Then open your Wanam app. At this point, you'll see the main Wanam menu.



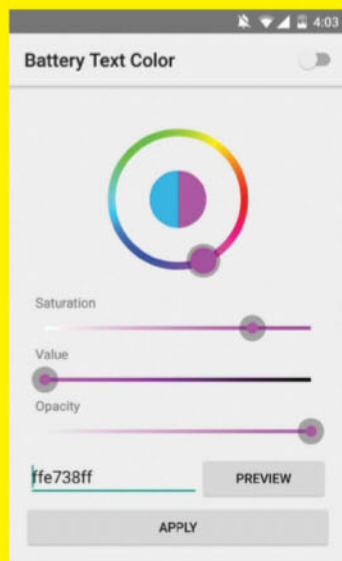
6 Additional options for notifications

When heads-up notifications are enabled, you have additional options. If you have a habit of dismissing notifications and forgetting to act on them, you can enable Ongoing notifications. You can also increase the delay before you can dismiss a notification using 'Heads up delay.'



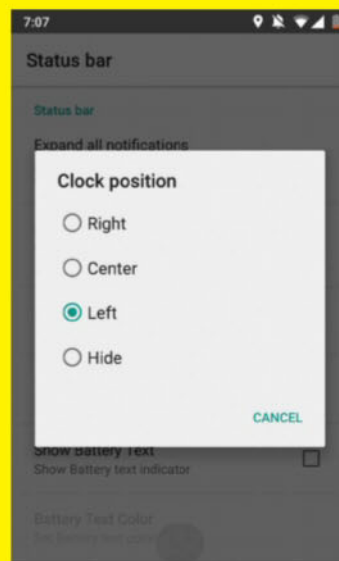
2 Customisable status bar

Select Status bar. In this section, you can customise the stock status bar, including changing the battery icon. You can replace it with a circle battery icon, hide the battery icon completely, or display the percentage of battery remaining by selecting 'Show Battery Text'.



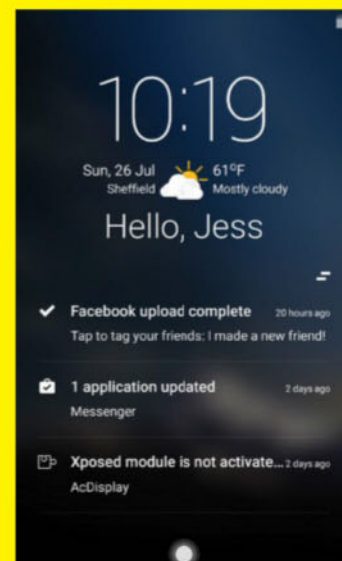
3 Tweak your battery text

If you do choose to 'Show Battery Text', you'll get access to some additional options that allow you to customise this battery text. You can change the colour of the text, the typeface/font used, and the typeface style by choosing from Italic, Bold or Normal.



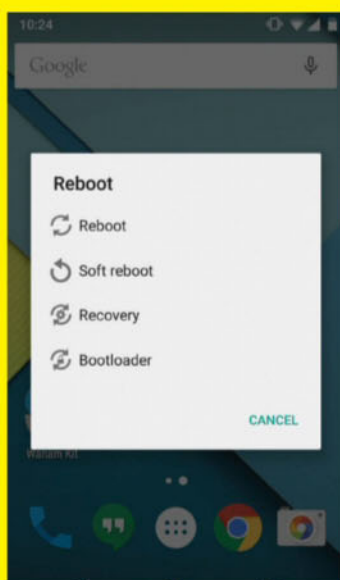
4 Edit or hide your clock position

You can change the position of the digital clock that appears towards the right of the status bar. To make this change, tap Clock position and choose from Right, Center or Left. You can also remove the clock completely by tapping Clock position and then Hide.



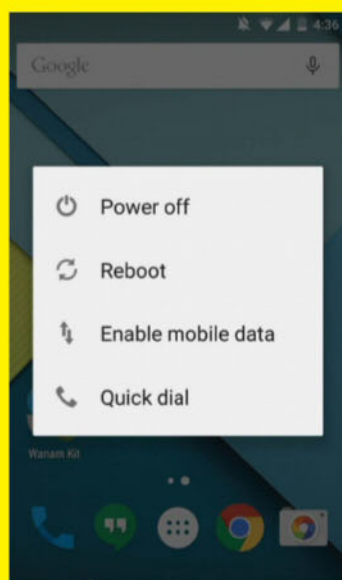
5 More detailed notifications

Do your notifications fail to give you enough details at a glance? You can enable the 'Expand all notifications' option so that all notifications appear expanded. The Status bar section contains several options, including enabling and disabling Lollipop's heads-up notifications.



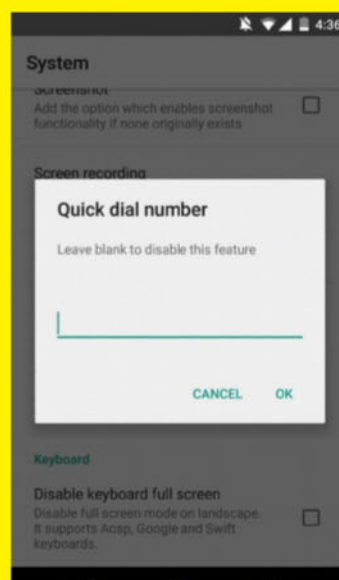
7 The advanced power menu

If you're constantly booting into your bootloader or recovery, you can save time by adding these to your power menu. Exit the Status bar and select System from the main. Select Advanced reboot > Reboot options and select Soft reboot, Recovery or Bootloader.



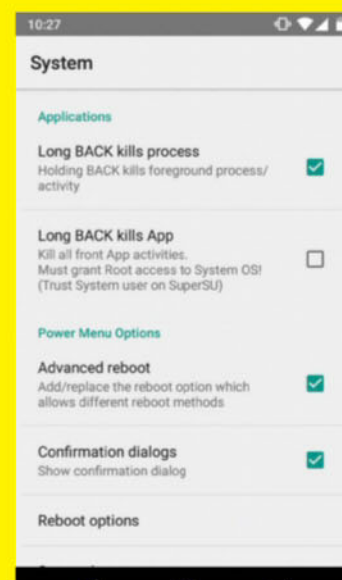
8 More menu options

There are two other options you can add to your advanced power menu. The first is Enable mobile data where you add an option to turn your mobile data on and off. The second is Quick dial, where you add a telephone number to your power menu.



9 Quick dial shortcut

To add a quick dial shortcut to a telephone number of your choice, tap Quick dial number and then enter the telephone number. If you want to disable this feature at any point, select Quick dial number again, but this time delete the entire number and tap OK.



10 Improve device's performance

Even if you dismiss an app, it can leave processes running which has an impact on performance. Using Wanam, you can kill all processes running in the foreground; just long press your device's Back button. To activate this functionality, select 'Long BACK kills process'.

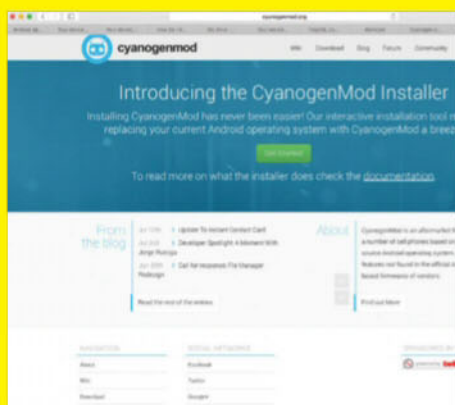
Works with **>> CyanogenMod 11** and up **Difficulty Easy**

Scramble your CyanogenMod PIN code

Add an extra layer of security with this easy to turn on CyanogenMod scramble feature

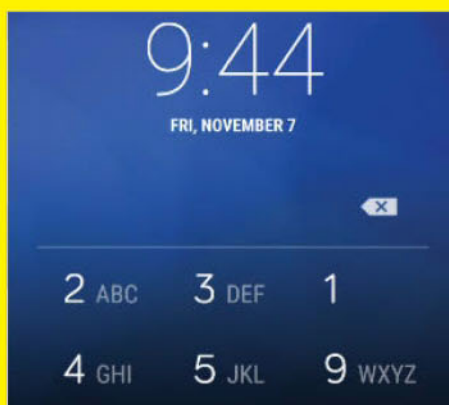
Being able to add a PIN to protect your device from unwanted attention is a great idea, but with touchscreen devices it comes with a pretty big flaw. Namely that since those four buttons are the ones you push the most, you're going to leave incriminating fingerprints on your screen for everyone to see. That's where CyanogenMod's clever PIN scrambler comes in.

Every time you unlock your phone, the nine digit number pad is displayed randomly, so the distribution of smears will now be more even. In this tutorial, we'll show you how to get set up. All you'll need is a device with CyanogenMod 11 or later installed. We'll also show you how to get the feature without CyanogenMod if it's not your cup of tea.



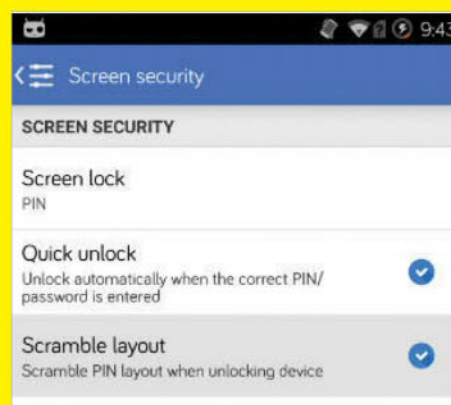
1 Get CyanogenMod

If you don't have CyanogenMod, then you will need to install it. It goes without saying you'll need root access, but if you've not flashed a ROM before, you'll need to do some research on how to do this. The official site is a good place to start and you can find it at cyanogenmod.org.



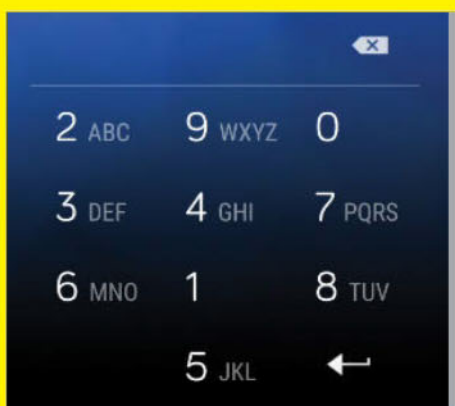
2 Set up a PIN code

Now you need to set up a PIN. Head to the security settings located in the options menu and set up a PIN to lock your device. It'll be four digits long and you'll need to enter it a couple of times to confirm it. Make sure you remember the numbers, not the pattern.



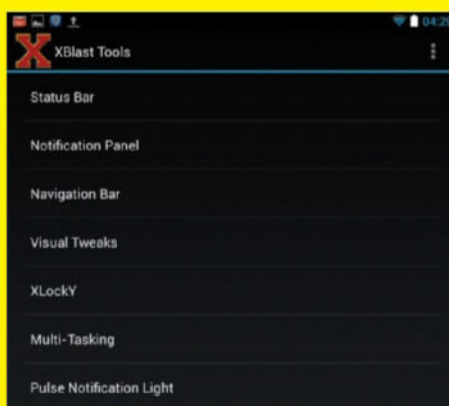
3 Scramble in settings

Now head back to the security settings page and you should see that a new check box has appeared marked Scramble Layout. Check this box, then lock and unlock your phone to make sure that the changes you have created have come into effect.



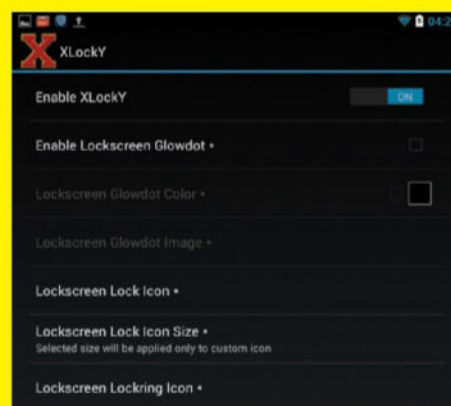
4 Check it has worked

If it has worked, then the key distribution of your number pad should be randomised every time you unlock your phone. It's as simple as that to set up. Just try to remember not to automatically tap out the same pattern every time and you'll be fine.



5 Xposed alternative

There is, however, another way to set up a PIN scrambler if you don't have CyanogenMod installed. You'll still need a rooted device, but this time you can use the Xposed Framework and XBLAST Tools to get the same outcome. Install the module in the usual way and open it.

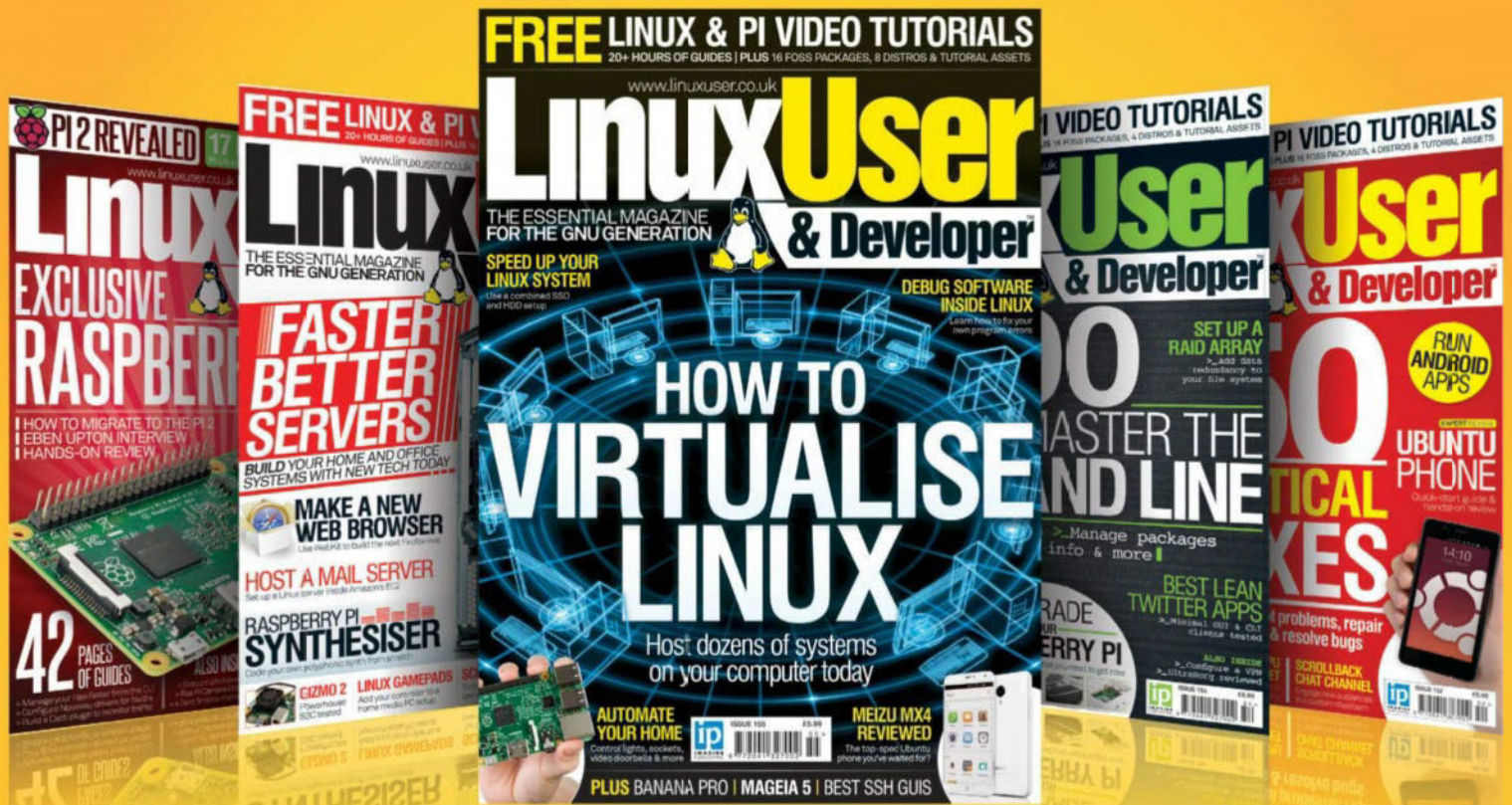


6 Complete the process

Find the setting marked XLockY and scroll down until you find the option marked 'Keypad PIN Shuffler'. Check the box and the module should do the rest for you. XBLAST costs £2/\$2.38, but if you're not a fan of CyanogenMod, it's a great alternative.

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Huawei P8

It's big and beautiful, but is it enough for Huawei to crack Samsung's dominance in the West?

Despite their growing name and reputation, Huawei remain relatively unknown in most countries outside of China, where they're selling devices in the millions. With both the Ascend P6 and P7 falling short of expectations in terms of both design and usability, the P8 feels like a complete rethink from a company who have not only learnt from their previous mistakes, but ultimately have used a keen eye to identify what sells well. It's clear from the get-go that the changes and new direction are on point, with the company dropping the 'Ascend' name and going for the much more refined P8 – it is simple, elegant but still recognisable thanks to the Huawei badge on the rear of the device.

Big and beautiful

Unboxing the P8 for the first time left us purring in excitement, as the unibody aluminium design is excellent. In an age where everyone is looking to be different, the P8 simply refines the already solid design work from the Galaxy S6 and iPhone 6 to provide an all-round classy device that doesn't cut corners in its build or use of bezel space. There's a sleek white bar that circles the bottom of the device, which is purely for aesthetic purposes, and a plastic panel that houses the rear camera with an accompanying sensor. We can argue it's merely a copycat, but when Samsung and Apple are at the top of the food chain, it's their devices you need to take inspiration from.

It feels good in your hand and while the lack of real curved edges adds a bit of bulk to the device, at just 6.4mm thick it's noticeably thinner than most current flagships. Dotted around the sides are the usual selection of ports, as well as the always-welcomed inclusion of a microSD slot, but there is no support for a removable battery, which is becoming a rarity with each new wave of flagship devices. Music lovers can find dual speakers at the bottom of the aluminium body, plus a single speaker that sits next to the front-facing camera. Sound is generally crisp and clear with no distortion to note, but you're going to be reaching for your headphones if you want to enjoy any high-fidelity tracks.

Emotion UI woes

While we love the design of the P8, we can't help but approach using the handset with some trepidation based on our previous experience with Huawei. The Emotion user interface has never been a pleasure to use, it's often buggy, causes lag issues and plays havoc on battery life. This version of the Emotion UI is, thankfully, the best yet. Many graphical issues have been ironed out and there are some nice nuances added to the vanilla Android experience that are



Added extras

Bloatware is usually an annoying side-effect of owning an Android device. However, the included added software of the P8 is not only usable, but rivals many of the third-party alternatives

Expandable storage

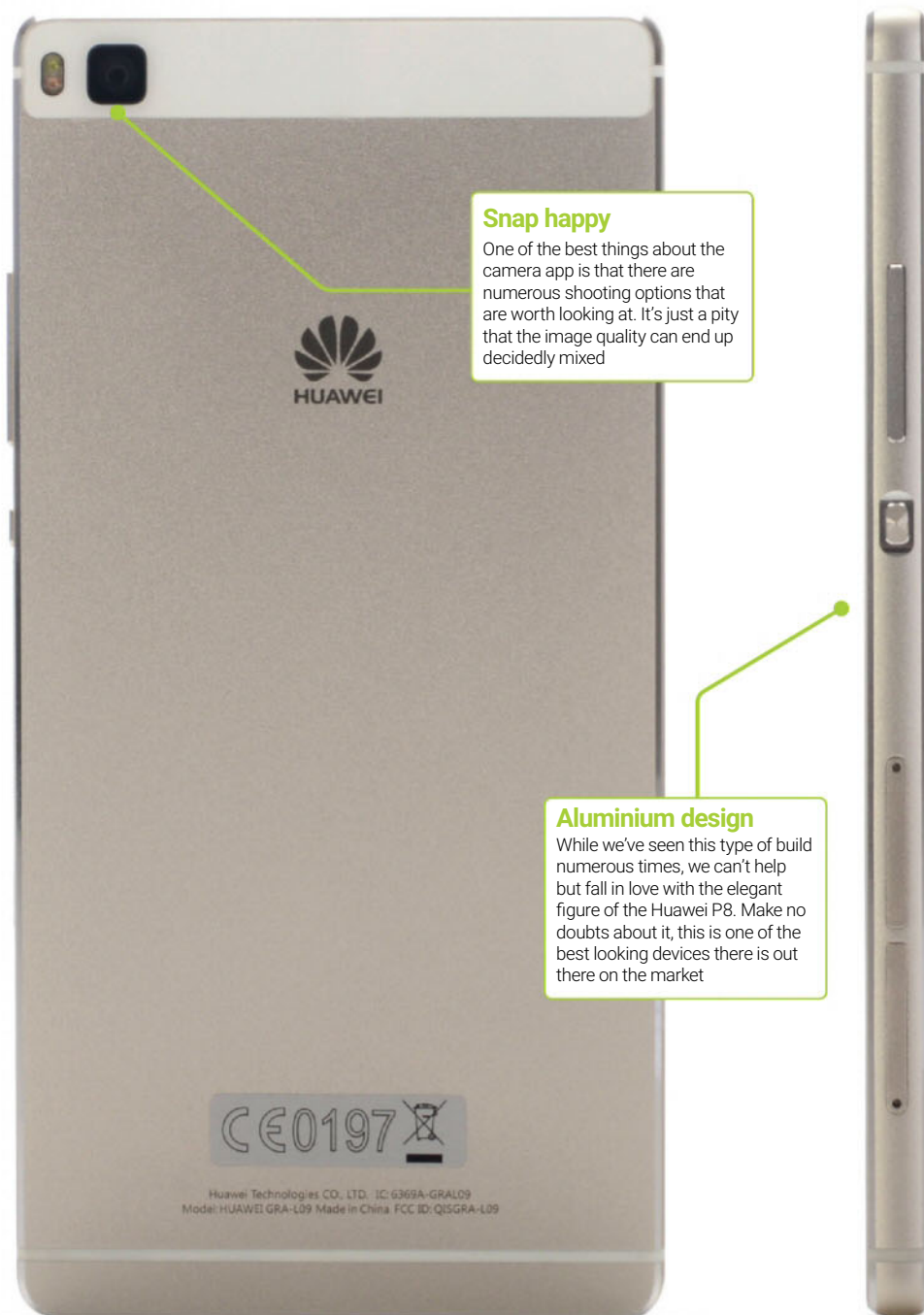
With just over 11GB of storage readily available to users, chances are you're going to want to make it a priority to add a microSD card. The P8 supports up to 128GB of expanded storage

Getting Emotional

There are some marked improvements with Emotion UI 3.1, but it still has numerous problems. Further work needs to be done to make this a credible, and more importantly, usable UI

Added power

While the average user won't notice the octa-core processor in action, it comes into a league of its own when you start using demanding apps. Video editing is a particular highlight here



Snap happy

One of the best things about the camera app is that there are numerous shooting options that are worth looking at. It's just a pity that the image quality can end up decidedly mixed

Aluminium design

While we've seen this type of build numerous times, we can't help but fall in love with the elegant figure of the Huawei P8. Make no doubts about it, this is one of the best looking devices there is out there on the market

certainly welcome. It's still not perfect, as even an octa-core processor can't seem to prevent the occasional lag from rearing its ugly head and some of the animations when moving through menus slowdown the experience. The P8 also sports some clever Voice Wake Up gestures that users can take advantage of and, while they're aimed at making it easier to get around the device, you'll tend to spend more time getting the feature to actually work than necessary. It's possible to improve the experience by toggling some settings, but those with any sort of accent are going to struggle here.

But to say it's all bad with the Emotion UI simply wouldn't be fair, as this is a marked improvement over previous offerings. The addition of Android 5.0 means screen capturing and a new app launcher shortcut are much of a focal point for the software as both work without issue. For those who regularly partake in using the Play store's more demanding apps, then both the HiSilicon octa-core processor and 3GB RAM offer a near seamless experience when in use. As you'd expect, these sorts of apps drain the P8's 2,680mAh battery considerably faster, but not to the same rate as we used to see in the previous models. While this is true, the battery only just made it through a day of medium usage. Sure there are various settings and tweaks that can improve this considerably, but it's the predominant reason why a removable battery should have been included here. Huawei have primed the P8 for media consumption, but they have not given it the correct tools to get the job done; especially if you're only through half of your Netflix binge without a charger to hand.

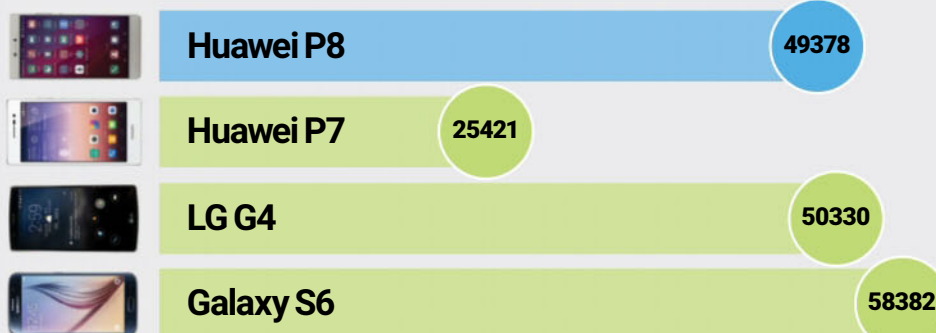
Pixel perfect

To really enjoy the P8, you need a display that can match the experience, which it does include – for the most part. The edge-to-edge 5.2" IPS offering is impeccable in nearly everything. To the naked eye, it produces colours without fault, but the savvier user may want to adjust the brightness levels that seem to have a strange dark tint out of the box. We're clearly nitpicking here, as the display is beautiful, responsive and colourful without being overly spectacular. It rivals many of the best displays from leading manufacturers and with 424 ppi, you know there's some quality there. We wouldn't say it's up to the high standards set by Sony with the stunning Xperia Z4, but it's certainly close.

The larger display also benefits the 13MP camera, which includes a myriad of treats to play around with that rivals many third-party alternatives. There's the obligatory selfie mode for getting the best out of your pearly whites that uses the decent 8MP front-facing camera, as well as an impressive Light Painting mode that helps capture motion in photos. While the options are plentiful, the image quality is decidedly average. Shooting in low light conditions is actually a positive here, but »

Performance compared

Though better than the Ascend P7, the P8's AnTuTu benchmarks still lag behind the S6



“There’s no doubt about it that this is the best Huawei phone we’ve seen to date”

normal conditions can often leave images with a slight grainy look to them. The various filters can help improve it, but not as much as we would have hoped. This trend continued when we explored the P8’s video recorder, it was good, but not overly impressive. It’s a nice touch to record in 1080P, but there are very few shooting options when compared to the vast selection we had with photos. What is more, the device tends to get awfully warm when processing recorded footage.

Useful bloatware

If you’re a keen ‘phonetographer’, then make sure to keep a microSD card handy. The P8 is another prime example of a device that promotes 16GB of internal storage, but offers far less after the necessary bloatware and UI has been catered for. Expendable storage is very cheap nowadays, so kitting the P8 with a 128GB microSD card is easily doable.

What Huawei can boast here, is that the bloatware it does include is actually useful and we’ll go as far as saying that you may actually want to use some of what’s included. Our favourite is Director Mode, which enables users to perform simple edits on any footage they’ve captured whilst combining videos together. It takes a little time to get your head around the various features they have on offer, but what is there is definitely worth checking out. Similarly the Phone Manager app is the equivalent of a ‘jack of all trades’ styled app as it includes

everything from a Storage Cleaner to a Phone Accelerator mode. All the functions look to aid the device’s speed and usability, for the most part it does this very well. Plus, for anything that doesn’t meet your standards, there are millions of apps waiting on the Google Play store to improve your experience.

There’s no doubt about it that this is the best Huawei phone we’ve seen to date. It both looks and feels like a premium device, whilst offering all the bells and whistles you would normally expect from a flagship phone of this size. It is noticeably cheaper than many of its rivals as well, with contract prices starting at just £20 and some good deals to be had if you’re looking to buy the device outright. However, it’s important to point out that there’s still quite a bit of room for improvement. Emotion UI is slowly – and we mean slowly – getting better, but it’s still lacking the fluidity that both HTC’s Sense and the vanilla Android experience offer. In addition, it also seems an utter waste to include one of the best designed camera apps around and then not provide the necessary tools for you to get the most out of it. If Huawei are to make serious waves in the West, it’s these small flaws that could really make all the difference from a sale to a potential buyer going elsewhere. Nevertheless, this is a fantastic step in the right direction and one that Huawei now have a great basis to build from. We’re excited to see what the P9 can bring to the table, as we could potentially be in store for the device of the year. ■

Information Huawei P8

£369.99/\$249.99

» More information huawei.com
» Supplied by huawei.com

Best deal

		
£21.99 per month (contract)	£26 per month (contract)	£23.50 per month (contract)

Technical specs

» Operating system.....	Android 5.0
» Processor.....	HiSilicon Kirin 930 2.0GHz octa-core
» Memory.....	16GB storage/ 3GB RAM
» Dimensions.....	144.9 x 72.1 x 6.4mm
» Weight.....	144g
» Display size.....	5.2 inch
» Display resolution.....	1080 x 1920 pixels (424 ppi)
» Front camera.....	8MP
» Rear camera.....	13MP (f/2.0)
» Connectivity.....	4G, Bluetooth 4.1, NFC, Wi-Fi
» Expansion slot.....	microSD (up to 128GB)

Battery life

You’ll get through a day on medium usage, but the 2,680mAh battery could be bigger

Good for

Sleek design

It’s a beautifully designed smartphone that takes inspiration from the iPhone and Galaxy S6

Budget buy

Despite its flagship build quality, it’s remarkably cheap compared to the competition

Bad for

Picture Quality

Despite having plenty of shooting options, the image quality just isn’t very good

Emotion UI

Emotion UI still needs a lot of work to be a credible third-party alternative to vanilla Android

Verdict

The P8 is a remarkable improvement from Huawei and a great step forward, but there’s still considerable work to be done



The Huawei P8 comes in Mystic Champagne (pictured above) or Titanium Grey

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Moto G (2015)

You can now customise Motorola's best-selling smartphone before you buy

The Moto G has been given a big upgrade. The third-generation model still holds true to the principle that made its predecessors so popular: it offers a high-quality phone for a third of the price of most flagships. But with more and more budget phones claiming they offer superior specs at a low price, has the Moto G (2015) upped the ante enough to distinguish itself from the competition?

Looking at it front-on, the Moto G (2015) might disappoint you. While other phones this year have placed an emphasis on a slender metal chassis, the all-plastic Moto G (2015) looks more like the Samsung Galaxy S4 rather than the Galaxy S6. It's also a chunky monkey at 72.4mm wide with a curved back that ranges from 6.1-11.6mm.

However, its five-inch display is bright and crisp with wide viewing angles, even if its pixel density of 294ppi (pixels-per-inch) is only a single pixel higher than last year's Moto G. It also has dual front-facing speakers that provide a booming loudspeaker during calls, though we did find them a little tinny for music playback.

However, flip the Moto G (2015) over and you will be significantly more impressed. Motorola has extended its online design studio, Moto Maker, to the new Moto G, so you can mix and match how the handset looks before you buy. Though you're only limited to black or white on the front of the phone, you can choose from ten colours and another ten accent tones to personalise the back cover. Colours range from vibrant lime green to golden yellow and cherry red, but also include the more sombre black, white, navy blue and cabernet purple, giving you a wide selection to play with.

Sadly, you can't choose between materials for the new Moto G's case like you can with the more expensive Moto X Style, which offers a choice of backs made from leather and wood as well as plastic. Instead, all of the back covers are made from a textured rubber. This gives the Moto G more grip and ensures that the phone is waterproof. With an IPX7 rating, it can be dunked into one metre of water for up to 30 minutes.

Under the customisable cover, the Moto G (2015) is packing a Snapdragon 410 quad-core processor clocked at 1.4GHz. This is an improvement on the second-gen device's 1.2GHz Snapdragon 400, but is far from cutting-edge. It benchmarked 23,987 on Antutu and its single-

Take a picture

Given the price of the Moto G (2015) its 13MP rear camera is all the more impressive. Photos are suitably high quality, boasting 4128 x 3096 pixels, with great clarity and lots of light thanks to the f/2.0 aperture lens

Super-fast connectivity

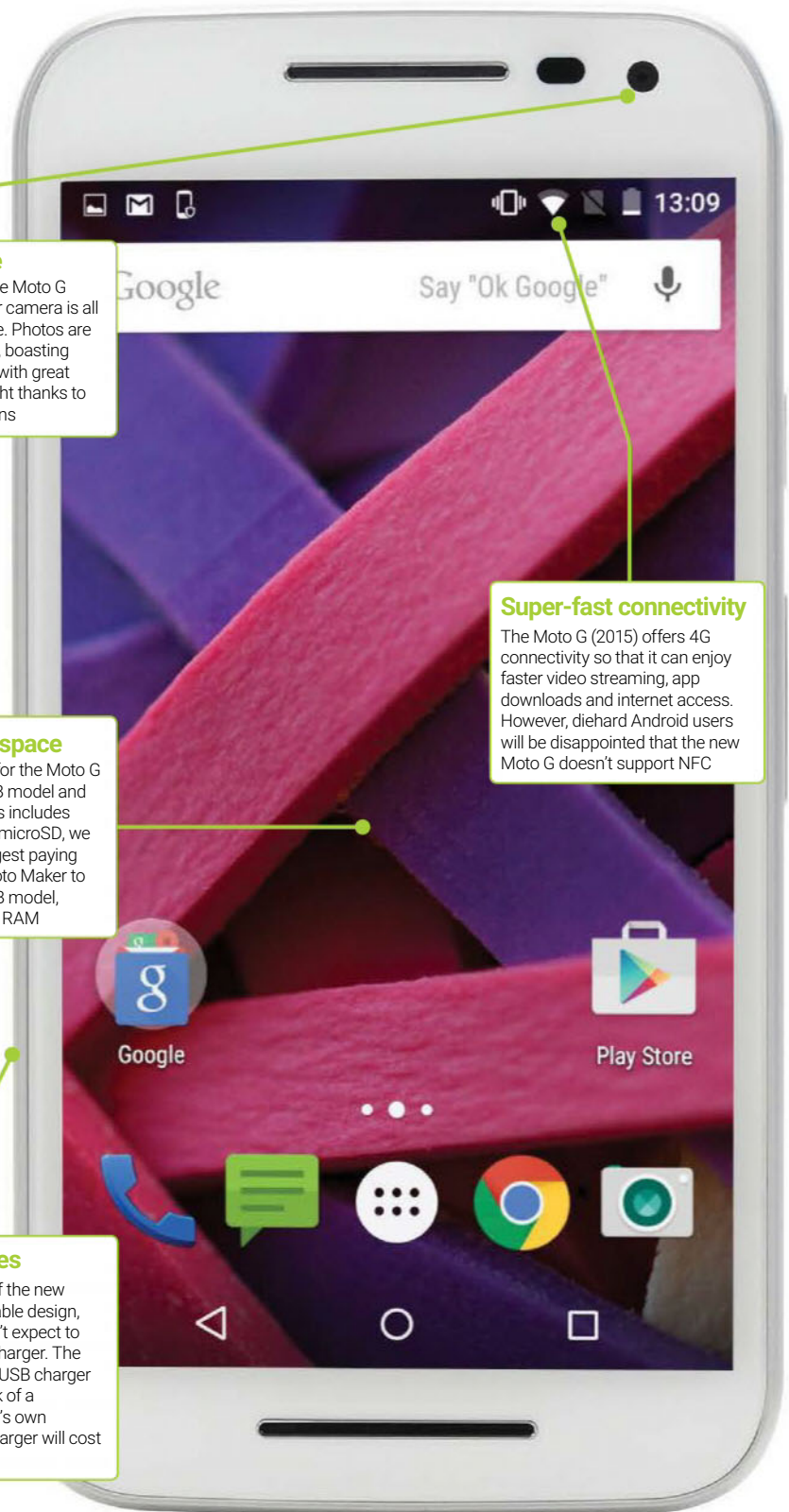
The Moto G (2015) offers 4G connectivity so that it can enjoy faster video streaming, app downloads and internet access. However, diehard Android users will be disappointed that the new Moto G doesn't support NFC

Extra storage space

The £179 price tag for the Moto G (2015) is for the 8GB model and 1GB RAM. While this includes support for a 32GB microSD, we would strongly suggest paying the extra £30 on Moto Maker to upgrade to the 16GB model, which also has 2GB RAM

Hidden charges

While we approve of the new Moto G's customisable design, one add-on we didn't expect to pay for was a wall charger. The box only includes a USB charger to plug into the back of a computer. Motorola's own TurboPower wall charger will cost an extra £24.99



and multi-score Geekbench 3 results were 522 and 1,595, which were both far ahead of its predecessors, but still in line with older (albeit, more expensive) phones from one or two years ago. In real terms though, we did notice a significant delay in performance when using the phone day-to-day, but enjoyed graphic-heavy games without jitters.

One area that has been greatly improved is the camera. The rear shooter is exactly the same as Google's £500 Nexus 6, boasting 13MP for crystal clear HDR images and a dual LED flash for colour-balancing. This is a huge leap forward from the second-gen model's 8MP, and the front-facing selfie snapper has also been upgraded from 2MP to 5MP. With this powerful rear camera and the fact the Moto G (2015) runs near-stock Android Lollipop 5.1.1, you might think of it as a knock-off Nexus. However, though it

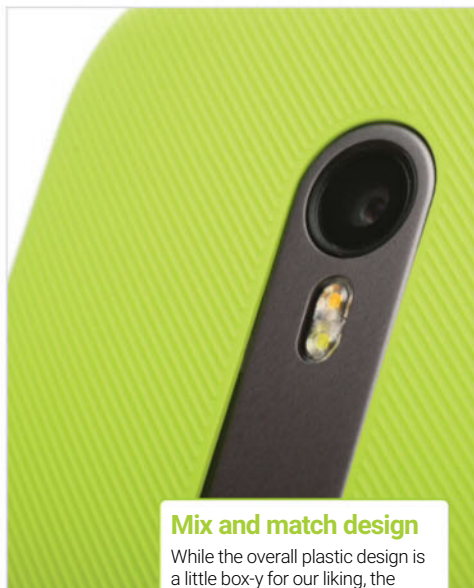
doesn't have a custom skin and is lean on bloatware, Motorola is really trying to push you to some of its own apps on the new Moto G. The most significant of these is Moto Assist, which rather than being a poor substitute for Google Now is a helpful automation tool. It recognises when you're driving to automatically read out texts and it will block unwanted notifications between set times when you're sleeping. The rather brilliant Moto Display feature is also still here, delivering essential information straight to your screen without needing to wake it up.

The final big change users will notice about the Moto G (2015) is that it's not as affordable as it used to be. It now costs £179 for the 8GB model or £200 for the 16GB model. However, given the overall upgrade, we'd say this is still very reasonable and, for us, the Moto G still sets the standard for low-end smartphones.



Splash-proof

While the touchscreen won't actually work underwater, you don't have to worry about dropping the Moto G in a puddle. It has an IPX7 rating, so can work for up to half an hour submerged in up to three feet of fresh water



Mix and match design

While the overall plastic design is a little box-y for our liking, the option to personalise your handset with 20 different colours and metallic accent tones before you buy, does make up for this. You can also engrave it for free



Information

Moto G (2015)

From £179/\$179

» More information motorola.co.uk
» Supplied by Motorola

Best deal



£16
per month
(contract)



£16.50
per month
(contract)



£17
per month
(contract)

Technical specs

- » Operating system..... Android Lollipop 5.1.1
- » Processor..... Snapdragon 410 1.4GHz quad-core
- » Memory..... 8GB or 16GB storage/ 1GB or 2GB RAM (available on 16GB model only)
- » Dimensions..... 142.1 x 72.4 x 6.1-11.16 mm
- » Weight..... 155g
- » Display size..... 5-inch
- » Display resolution..... 1280 x 720 pixels
- » Front camera..... 5MP (f/2.2 aperture)
- » Rear camera..... 13MP (f/2.0 aperture)
- » Connectivity..... 4G LTE, Bluetooth 4.0, Wi-Fi b/g/n
- » Expansion slot..... microSD (up to 32GB)

Battery life



The 2,470 mAh battery doesn't last as long as the new Moto X Play, however, it does offer a full 24 hour charge with mixed use

Good for

Taking photos

Many premium phone owners will envy the Moto G's rear camera, let alone other budget users

Rugged use

As well as being inexpensive and waterproof, you don't have to worry about knocking the rubberised Moto G

Bad for

Poor performance

Though we wouldn't call the Moto G sluggish, its dated processor benchmarked poorly

Listening to music

Though the dual speakers are booming, we did find the sound quality a little tinny

Verdict

Offering personalised style and substantial specs, the new Moto G proves it's still the best budget buy



Sony Xperia Z3+

Japan's Xperia Z4 becomes the Z3+ in the UK. Does it offer enough of an upgrade?

In the last generation of flagship devices, the Z3 was the phone to have. Sure, it looked like the Z2 (and the Z1) and it had exactly the same camera, but it still ticked all the right boxes – good-looking design, breezy performance, epic battery life, near stock software and Sony's famed waterproofing and dust resistance.

Predictably, given the Z3+ name, this new phone is more of the same. So what is different in this incremental update? If you compare it with the old models, you'll immediately notice the Z3+'s slightly reduced weight and slimmer profile. The OmniBalance design is further refined with repositioned speakers (strikingly similar to those on the Z2), and more polished edges and transparency on the nylon corners, designed to protect the device if it's dropped. The power and volume buttons have a much improved action. However, though the power button is so much easier to press, it's now a little too keen to activate which can lead to the device turning off in your pocket.

On the left side of the device is the SIM and microSD slots behind a waterproof flap. The flap itself has an improved design and pushes back into place with a more audibly click, which helps provide reassurance that it's correctly seated. What you won't find on the Z3+ is a flap for the microUSB port – finally you can charge the phone via it's rightful place, on the bottom of the device in the middle. This alone makes a huge difference to everyday usability.

Sony are well known for making sensors in most of the world's finest cameraphones so for this iteration of their own range they have, again, kept the same sensor. The decision really is inexplicable, leaving the Z3+ with a camera that is inferior to many of their rivals for which they supply the parts! The 20.7MP camera is by no means bad and some new software features improve the overall experience, we just expect better. One highlight of the camera is that Superior Auto takes shots in 8MP, allowing the higher resolution to provide the equivalent of an optical zoom function, which works well. A dedicated camera button is a rare treat too.

At the heart of the Z3+ beats the Snapdragon 810 processor from Qualcomm, their most powerful chip to date which also features in the HTC One M9 and LG G Flex 2. The 810 sure is speedy, but that performance comes at a costly, uncomfortable price: excessive heat.



Smile! In 5 MP

The front facing camera on the Z3 was a particular weakness. The Z3+ replaces the old sensor with a vastly improved 5 MP, 25mm, wide angle item. The Superior Auto photo feature is also supported on the selfie cam for the first time

Super fast connectivity

The Z3+ supports LTE (4G) Cat 6 for up to 300MBit/s downloads and up to 50MBit/s uploads. The Wi-Fi connectivity is also better than ever before with MiMo support to deliver speeds twice as fast as before (up to 862MBit/s)

Goodbye dock port

A dock connector is no longer provided on the Z3+, as just like the Xperia M4 Aqua and Z4 Tablet, the Z3+ retains its signature IP65/IP68 waterproof rating, but does away with the annoying port cover

Thin is in

The 7.3mm thick Xperia Z3 could never be called portly, but a reduction of 0.4mm to 6.9mm together with shedding 8g of weight does surprisingly make a tangible difference to in-hand feel. The Z3+ is great to hold

Information

Sony Xperia Z3+

£499/\$TBA

» More information sonymobile.com
» Supplied by **Sony Mobile**

Best deal



£31.99
per month
(Contract)



£46
per month
(Contract)



£49
per month
(Contract)

Technical specs

» Operating system.....	Android 5.0 Lollipop
» Processor.....	Qualcomm Snapdragon 810 octo-core (quad-core 2.0Ghz + quad-core 1.5)
» Memory.....	32GB / 3GB RAM
» Dimensions.....	146.3 x 71.9 x 6.9 mm
» Weight.....	144g
» Display size.....	5.2-inch
» Display resolution.....	1080x1920 pixels (424 ppi)
» Front camera.....	5MP
» Rear camera.....	20.7MP / f2.0
» Connectivity.....	LTE (4G) CAT 6, MiMo Wi-Fi 802.11 a/b/g/n/ac, Bluetooth 4.1
» Expansion slot.....	microSD (up to 128GB)

Battery life

The 2930mAh battery outlasts other Snapdragon 810 devices, but falls short of the Z3's longevity

Good for

Stunning screen

The Z3+'s screen might be 'only' full HD, but it's one of the best in the business

Waterproof design

That Sony can make a waterproof device so thin, it remains a marvel – no other devices offer this

Bad for

Slips and slides

The glass back of the device makes it prone to sliding off things – be careful where you put it down!

Last-gen camera

The camera is decent, but it can no longer compete with the best in class like the Galaxy S6 and LG G4

Verdict

If Sony can get the temperature under control, the Z3+ is a very nice device. But as it stands today, it's hard to recommend



After turning on any box-fresh Android device, the first step is an optimisation of the system apps followed by installation of updated versions. This is traditionally a high processor load operation that pushes components to their limit. This is also true of the Z3+ and is a very unwelcome introduction to the biggest issue with the device - the glass back can simply get too hot to hold comfortably. This issue isn't limited to first boot either – subsequent installations also send the temperature soaring, as does heavy duty gaming or other processor intensive tasks. This in turn throttles performance as the system tries to bring the temperature down, leaving a device that is not only burning up, but slowing down too.

Sony have acknowledged the issue that was widely reported for the Japanese release and they plan to provide a fix in due course, but this is a big problem. Background tasks can also make this happen, leading to an extremely hot phone in your pocket!

The thermal problems take away from what otherwise is a very capable device. The screen on the Z3+ is simply stunning (forget the fact it's not QHD, that doesn't matter), the stereo speakers are decent considering the limited space they have to work with and once again, Sony's take on Android Lollipop is one of the best out there. But none of that matters given Z3+'s temperature flaw. Let's hope Sony find a way to fix it, and fast. ■

Double the storage

For a flagship device, we think that 32GB storage should really be the minimum size and the Xperia Z3+ delivers. It also includes microSD expansion, supporting cards up to 128GB in size. You shouldn't want for storage space

Updated camera software

Although the main camera hardware on the Z3+ is the same 20.7MP shooter as on the Z3, some enhancements are provided in software. The ISO level now reaches 12,800 and Superior Auto is more intelligent than ever, adding a Gourmet mode for perfect food shots



LG Spirit 4G

Can this budget-buy offer the spirit of the LG G4 on a shoestring?



Premium touch

The use of LG's patented In-cell touch technology is usually reserved for more expensive models, but can also be found in the Spirit 4G. By integrating the touch sensors into the screen, LG have made the handset slimmer, lighter, and more responsive with a much brighter display

Ahead of the curve

LG does love a curved phone and has continued this trend with the Spirit 4G. It's a much more subtle curve than the Flex 2, for example, but is still noticeable and lets it fit comfortably in the hand

High PPI

A screen density of 312PPI outstrips the majority of its rivals in this price bracket, meaning that you're not going to get a much better visual experience without spending a lot more money and entering the mid-range zone

The Spirit 4G brings a touch of flagship glamour to the budget market. Announced at the same time as the Leon 4G and Joy, the three handsets are intended to offer "amazing smartphones at reasonable prices," according to Juno Cho, LG's CEO. But with so much critical acclaim for its big brother, the LG G4, and a lot of competition from the likes of the Moto G, Asus Zenfone 5 and Honor 4X, this handset has a lot to prove.

At first glance, LG has succeeded in the looks department. The Spirit 4G has that gentle 3,000R curve so it can be cradled comfortably in the hand. A design feature of the more expensive G4 and Flex 2, it's good to see LG applying this level of craftsmanship to their budget range. As usual with LG phones, the power and volume buttons sit on the back and are comfortably within reach. Though the keys are textured to help distinguish them from the backplate, we would appreciate more of a difference between the power and volume buttons as it's all too easy to lock the screen when you're trying to turn up the volume. The small cutout for the speaker grille on the front of the handset looks a little unsightly and the edges are a bit sharp, but these are minor issues in an otherwise very well designed phone. Also, at just 124g, it is one of the lightest phones of this size we've tested, so a big congratulations to LG for keeping the weight of the handset as low as possible.

Digging into the spec sheet, we find a quad-core Qualcomm Snapdragon 410 1.2GHz processor, 1GB RAM and a 2,100mAh battery. These specs are reasonable for this price tag, which is something of a shame as we were hoping the G4's little brother was going to wow us with something superb under the hood. Unfortunately, our benchmarking test ranked it lower than the Moto E (2015) and even the £119 LG Leon 4G, which came as a real surprise. It lost out quite badly on the graphics and RAM speed, which was something we had already noticed when playing a power-hungry game that lagged and stuttered on several occasions.

Video playing was also a bit pixelated and that is presumably the fault of the Spirit 4G's processor not keeping up with buffering because the LCD screen is an otherwise beautiful affair, offering 720p HD and an impressively rich colour spectrum. In the age of phablets, its 4.7-inch display size may sound small, but it's on par with the much more expensive iPhone 5s.

The Spirit 4G's 8GB storage is disappointingly low, but is sadly the norm for devices at this

price point. Fortunately, it also supports microSD cards up to 32GB, which should give you the additional room you need for larger apps.

The handset runs Android Lollipop 5.0 right out of the box, which is becoming increasingly common amongst even budget phones, with LG's custom UI over the top. This is pretty similar to stock Android, but with an emphasis on brighter colours and rounded icons.

With an 8MP shooter on the rear and 1MP on the front, you'd expect the cameras to both be pretty poor, but they're surprisingly useable. Although there is quite a focusing delay, the resulting snaps from both cameras are sharp and clear, with the rear camera performing well in low light conditions.

With its curved design and colourful UI, the Spirit 4G has a lot of flair. Yet with lagging performance and underwhelming specs, we can't help but think it would be worth paying out just a bit for a significantly better phone. ■



Point and click

Camera work couldn't be easier on the Spirit 4G. The camera app will react to a closed fist gesture to take a picture or you can tap anywhere on the screen to snap away. These are good features for a budget phone

Sharp edges

Unusually for an LG handset, the top edges feel a little sharp. This may be due to cost cutting in the materials, but we would have expected it to have their traditional smooth edges all the way round

LG with Lollipop

The Spirit 4G comes preloaded with Lollipop but has its own usual custom skin laid over the top. We are fans of the LG UI, however, as it is very user-friendly and doesn't seem to glitch as others sometimes do

Information

LG Spirit 4G

£129.99/\$TBA

» More information lg.com
» Supplied by LG

Best deal



£13
per month
(contract)

The LG Spirit 4G is exclusively available on Three. It costs £129.99 pay as you go or £13 per month with no up front cost, plus you'll get 500MB data, 100 call minutes and unlimited texts

Technical specs

- » Operating system..... Android 5.0 Lollipop
- » Processor..... Qualcomm Snapdragon 410 1.2GHz quad-core
- » Memory..... 1GB RAM/8GB storage
- » Dimensions..... 133.25 x 66.12 x 9.95
- » Weight..... 124.4g
- » Display size..... 4.7 inch
- » Display resolution..... 720 x 1280 pixels
- » Front camera..... 1MP
- » Rear camera..... 8MP
- » Connectivity..... 4G, Bluetooth 4.0
- » Expansion slot..... microSD (up to 32GB)

Battery life



The 2,100mAh battery is hardly huge, but it should just about last for a whole day

Good for

Sharp screen

The display is a real highlight of this phone, running 312ppi to stand best in class

Snapping a picture

The surprising quality of the cameras are a selling point, with gesture control included

Bad for

Heavy tasks

The limited RAM and average processor struggle when put under strain, so it's not ideal for gaming

Storage

Most phones in this price bracket come with at least 16GB storage, so it lags behind here

Verdict

The LG Spirit 4G looks and feels great, sporting a sharp screen and commendable camera, but its lagging performance and lack of wow factor failed to dazzle us



HP Chromebook 14

Is it finally time for the Chromebook to usurp the laptop as the king of portable computing?



Stay in sync

Due to the reliability of cloud storage, keeping your various Android devices in sync with your Chromebook is notoriously easy. Just make sure that you login to the same Google account on all of your devices

Powered by Nvidia

Having a full Tegra processor means that there is enough power to make every task on the Chromebook 14 an absolute breeze. However, Chrome OS is lightweight, so you don't really notice the added power

Solid typing experience

The enlarged keyboard of the Chromebook 14 is generally a treat to use. Keys feel responsive and solid, but the trackpad can tend to be a little unusable at times

Coming of age

The Chromebook 14 builds on the success of the original HP Chromebook 11 that was released two years ago. This model is faster, more efficient and generally easier to use than its predecessor was

While laptops continue to struggle, Chromebooks have never been more popular. A strong surge in sales suggests that more users are moving towards the Cloud, but can the HP Chromebook 14 be the device to win over the masses?

When you first get your hands on the Chromebook 14, you'd be hard pressed to tell the difference from a laptop. The clamshell green variant we tested is certainly a bit more colourful than what we usually expect from a Chromebook so it suitably stands out from the crowd. While looks are one thing, it's the build quality that Chromebooks tend to fall down on, but that thankfully isn't the case here. While the build is predominantly plastic, which you'd expect for a device this cheap, it still has a nice robust feel

to it. There's a slight flex on the outer shell of the Chromebook 14, but it's barely noticeable unless you're actively searching for it.

The similarities between the Chromebook 14 and a laptop continue when you take a look at the various ports on offer. It has three USB ports, alongside both a HDMI and a microSD card offering as well. It's a fairly standard affair, but no matter what you want to connect the Chromebook 14 to, you're fairly well covered. One of the positives of a larger sized Chromebook is having access to an enlarged keyboard, a big plus here. Keys are responsive to touch and the sizing of all buttons is also decent. The lack of backlight can be an annoyance when typing in the dark, but again, it's something you can

expect not to feature on a budget device. An enlarged touchpad sits just south of the keyboard and while it's overly large, it can be a bit hit-and-miss at times. Presses are occasionally not registered at all and there is a lack of control when trying to use the outer edges of the trackpad.

Turning on the Chromebook 14 reveals Chrome OS in all its glory and it's better than ever. We've previously praised Chrome for being a lightweight and highly accessible OS, but the added power of the Tegra processor and 2GB RAM means that all forms of browsing are an absolute breeze here. Opening and switching between multiple tabs is another highlight and something that smaller Chromebooks tend to



struggle with. Again, internal storage is limited to just 16GB, but it's all about the Cloud here. With more apps now working offline than ever before, Chrome OS is slowly becoming a real contender for an everyday OS that you can use and enjoy.

To keep costs down, cutbacks certainly have to be made and the two areas in which this shows the most on the Chromebook 14 is the display and speaker quality. Colours are often washed out on the 1920 x 1080 panel, viewing angles are poor and there's no real wow factor to it. It's by no means terrible, but anyone who has owned a higher-end laptop previously will instantly notice the difference. Speaker

placement at the bottom of the Chromebook 14 is a decidedly weird choice as it leaves songs often muffled, so make sure you keep a pair of headphones handy.

Making the transition into the Cloud can be daunting, but if you're heavily involved in the Google ecosystem then a Chromebook is certainly the way to go. While there are undoubted faults in the HP Chromebook 14, it's still a powerful and versatile offering that can make the transition from laptop to Chromebook a much easier experience. Typing is a joy, using Chrome is better than ever thanks to the added Nvidia power and you want to know the best bit? You can get all of this for only £199. ■

Information

HP Chromebook 14

£199/\$299

» More information hp.com
» Supplied by hp.com



Technical specs

» Operating system.....	Chrome OS
» Processor.....	Tegra K1, 2GHz dual-core
» Memory.....	16GB, 2GB RAM
» Dimensions.....	344mm x 240mm x 18mm
» Weight.....	1,715g
» Display size.....	14-inch
» Display resolution.....	1920 x 1080 pixels (157ppi)
» Front camera.....	720p HD webcam
» Connectivity.....	Bluetooth, USB 2.0, USB 3.0, HDMI, Wi-Fi
» Expansion slot.....	microSD to 128GB

Battery life



The three-cell polymer battery will keep you going for hours on end

Good for

Great design

The striking colours used in the Chromebook 14 help stand it apart from the competition

Easy-to-use

The lack of bloatware and simple OS means this is one of the more accessible Chromebooks

Bad for

Poor trackpad

Using the trackpad is an indifferent experience, especially when it comes to using gestures to navigate

Display woes

Without doubt the biggest cutback on the Chromebook 14 is the display, which is functional, but annoyingly dull

Verdict

An accessible and affordable entry into the world of Chromebooks, the Chromebook 14 has a lot to offer

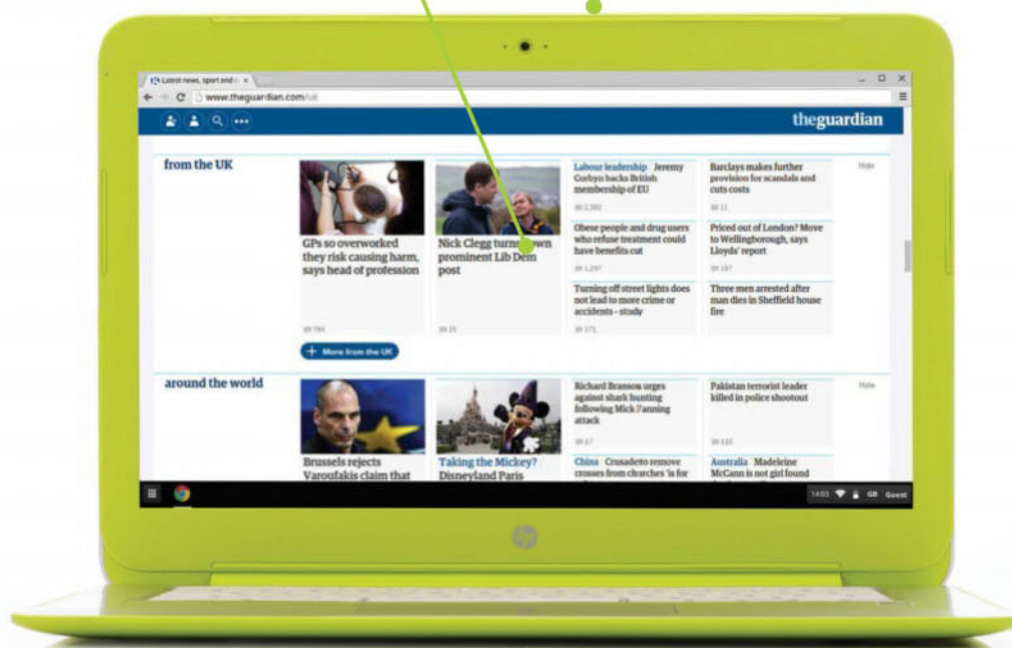


Cheap and cheerful

At just £199, HP's latest is one of the best-priced Chromebooks on the market. When you then consider its size and plethora of features, this is a really good deal

Solid build

Although it lacks the metal finish of the Chromebook Pixel, the plastic build here feels remarkably robust. A slight flex in the shell is the only downfall in an otherwise very solid product



Orbitsound A70 airSOUND Bar

Crystal clear audio from anywhere in the room

British company Orbitsound is rapidly building up a reputation as a provider of high quality speakers and its latest offering is the A70. This is a long, thin, sleek Soundbar that is designed to provide excellent sound wherever the listener is in the room. Thanks to its airSOUND technology and side-firing speakers, it ensures that sound reaches both ears at exactly the right time for an immersive experience. This worked really well when we tested it and blocking one ear resulted in a noticeably different listening experience. It felt like we were listening in surround sound despite the fact we were in front of, or at an angle, to a single speaker.

Set up is really simple takes less than ten minutes. Hooking the Soundbar up to the TV is a matter of plugging it in and altering a couple of settings, so there shouldn't be much difficulty here.

The sound that the A70 produced was top quality, rich, clear and with a thudding low bass. It is designed primarily to replace your TV's speakers, but it also utilises NFC and Bluetooth technology so it will also let you play your music through it via any of your Android devices.



» Price £500/\$TBA
» More information orbitsound.com



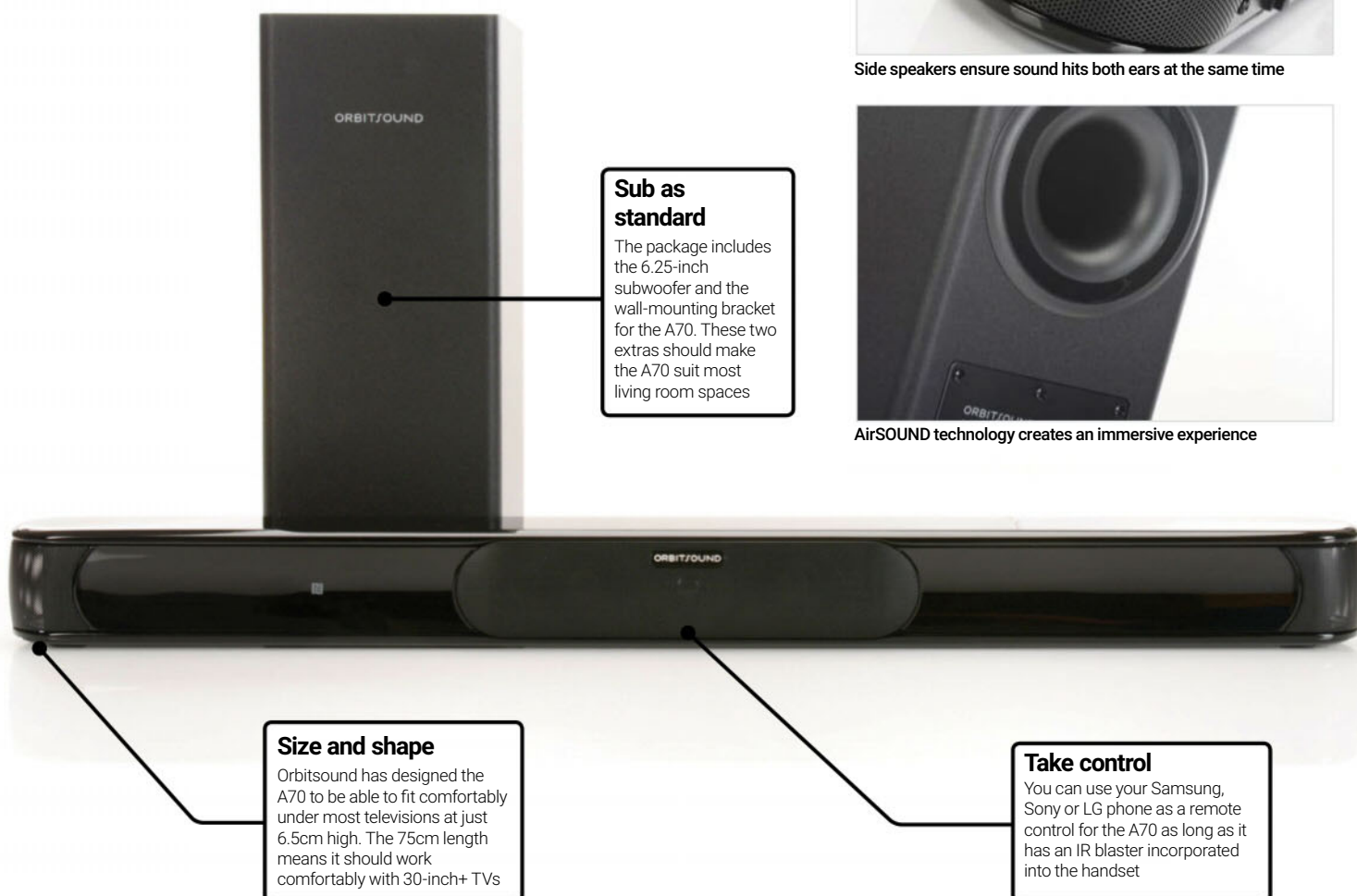
Connect with your Android music player via Bluetooth or NFC



Side speakers ensure sound hits both ears at the same time



AirSOUND technology creates an immersive experience



Aedle VK-1 Legacy edition headphones

Aedle attempts to leave a lasting legacy with titanium headphones

Straight out of the box, the VK-1 looks gorgeous. The striking aluminium earphones are uniquely shaped and just shout premium quality. It has a very minimalist design with very thin padding around the headband and the earphones themselves. This doesn't impact on the comfort at all as the headset is snug without feeling tight or oppressive. They're light as well, meaning that this is a pair of headphones you should be able to comfortably wear for a long stint.

However, we weren't as impressed with the cable, which looked metallic at first glance, but felt plastic and cheap on further inspection. Aedle really should

have gone for one look and feel, rather than trying to make it look good but ultimately disappointing.

The audio range isn't the greatest we've ever experienced, but we have no major complaints. It delivers a low, rumbling bass when needed, and that was certainly a plus point, but at times it felt a little bit strained at higher pitches. The middle section of Oasis' 'Rock 'n' Roll Star' felt rather tinny, which was a shame. Despite this, the overall experience was of high quality and the two headphones worked together excellently to provide a very immersive and enjoyable listening experience.

» Price £300/\$499

» More information aedle.net



Aluminium T6066 aircraft grade



3.5mm detachable audio cable

One size fits all

Although the earphones are adjustable, the headband isn't as it is made from one solid piece of metal. This also means that it can't be folded down, which is an unhappy oversight

Plane and simple

The aluminium in the drivers are made from the same grade that aircraft are made from, meaning that it is extremely strong to say the least and capable of surviving more than a couple of knocks

Aramid coated cable

The cable is coated with Aramid fibre. This is a man-made material that is extremely strong and light, making it a good cable material if it didn't feel so horrible

CloudPlayer

A roll-your-own cloud music service



CloudPlayer offers a sort of DIY music-streaming service, enabling you to listen to your own music collection stored on any of three supported cloud services: Dropbox, OneDrive and Google Drive.

What's wrong with Google Play Music for this purpose, you may ask. Well, while it allows you to store 50,000 songs, it does have a few limitations. For instance, you can only stream tracks on one device at a time, which is a pain if other family members also want to listen. Another restriction is the maximum of ten authorised devices to use Google Play Music, with only four de-authorisations permitted per year. In addition, tracks are encrypted with DRM, so you can't do what you like with them, even when they're downloaded for offline play.

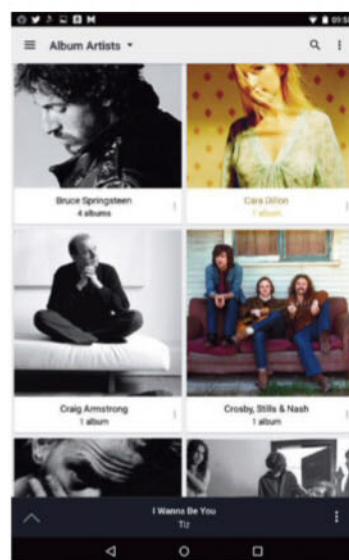
Swipe up to view the playback screen and apply optional audio effects

All of these restrictions are removed with CloudPlayer.

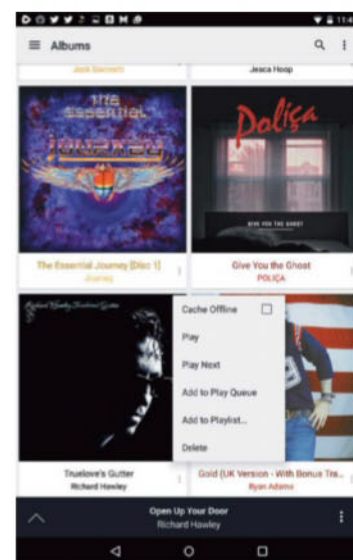
Another issue with Google Play Music is that songs are compressed into MP3 files, which is likely to offend the ears of audiophiles. Indeed, it may well be the latter who will find CloudPlayer most appealing, since it can handle lossless audio formats: both FLAC and Apple's ALAC. Fans of Apple hardware will also be pleased to see that CloudPlayer supports AirPlay to stream music to compatible speakers and Apple TV, as well as Chromecast (currently not available for tracks stored on Google Drive, but the developer is working on it).

Upon first launching the CloudPlayer app, it will scan for any locally stored music tracks. A one-off IAP (£4.99/\$5.99) is required to enable cloud-based playback, and indeed most other features, although you get a seven-day free

trial to start off. You can then link it up to Dropbox, OneDrive and/or Google Drive. Just log in and the app will scan your cloud storage automatically for music tracks in all the major formats, including MP3, AAC, OGG, M4A and WAV. The only



An attractive interface includes hi-res photos for most artists



Streamed music can be cached to the device for offline playback

downside is that it may well pick up a few other audio files such as audiobooks. You'll also need to scan manually later for any new media you've added to cloud storage.

The user interface is attractive, filled with automatically sourced, hi-res artist and album artwork – hardly any were missing. Several views are available, each with a choice of sorting options. You can even choose the default opening screen. Another handy option, Offline Only, shows locally stored tracks – including any cloud ones you've cached. The swipe-up playback screen features standard controls and a play queue. Audio can be adjusted with ten band EQ and SuperSound – bass boost and widening effects. While we had no problems with streaming cloud tracks, there is no gapless playback yet (another thing the developer is working on).

A versatile music player and streamer, CloudPlayer's limitation is the amount of storage you have available. By combining the free storage space on all three services, you have 32GB and there are various ways to increase this.

2 hour wonder

Want your money back? You've got 120 mins to decide!

- 0-40 minutes**
The interface is attractive, filled with album artwork
- 40-80 minutes**
Bar a slight gap between tracks, streaming works well
- 80-120 minutes**
Tracks are cached as M4A files in the app's data folder

keep refund

» specification

Price Free + IAP

Designed for: Phone and tablet
Requires Android: 4.1 and up

» verdict

Performance

Design

Value

A more versatile way to stream your own music collection from the cloud



» like this? try this! **BEAT – CLOUD & MUSIC PLAYER** » A highly customisable music player that can stream tracks from Dropbox or Google Drive

Doodle: Schedule Maker

A better way to plan meetings



Despite all of our modern technology, organising group meetings is still a pain.

That cumbersome cross-referencing between our calendar and a stream of ping-pong emails is hardly an efficient use of our time.

The Doodle scheduling tool aims to solve the problem by enabling invitees to vote on a range of suggested dates and times. You may recall that Doodle retired its original Android app back in 2012, redirecting users to its mobile website. However, the Swiss firm has now had a change of heart and launched a totally rebuilt app, complete with push notifications, contact integration and a handy matrix view of the proposed meeting times and votes.

Upon signing in – via email, Facebook or Google – you're

presented with a simple dashboard with tabs for your polls and invitations. Tapping the + symbol enables you to start a new poll – either 'Find a date' or 'Make a choice'. The latter entails asking participants to vote on a range of text options, and can be set as a hidden poll (where only you can see the answers).

The 'Find a date' option is the one you'll use to arrange meetings. Select some dates from the calendar view, then draw proposed time slots and invite participants from your contacts list (or type an email address). If they don't use Doodle, they'll still receive an email link taking them to a web portal to vote. You get notifications when people have voted and can view the votes cast so far. A built-in chat screen is handy for discussing details. When you eventually close

Draw suggested time slots for the meeting on the calendar

the poll, you will get to pick the final date and time.

It works well, although you'll need a Premium subscription (£20.50/€29 per annum) to unlock advanced features such as calendar integration, automatic reminders and tracking who hasn't voted yet.

» specification

Price Free

Designed for: Phone and Tablet

Requires Android: 4.1 and up

» verdict

A useful tool for scheduling meetings and conducting polls



» like this? try this!



Sunrise Calendar

Its built-in Meet keyboard helps you schedule meetings, but only with two people

Kitchen Stories

Cooking up a tasty treat



Since launching on iOS in 2014, Kitchen Stories has amassed 3 million downloads and now it has arrived on Android. Designed to offer a user-friendly experience for cooks of all skill levels, it had us drooling over the photos of tasty-looking dishes on its main screen. To help you find what you're after, you can filter them by course and type (poultry, vegetarian, gluten-free, etc). Tap a dish, then swipe up to see all the details

including nutritional information, unit converter and ingredients list, which can then be added to a shopping list. There are also tutorial videos for teaching cooking techniques. Underneath, are step-by-step photo instructions that are easy to follow. Omnipresent icons at the top can be used to add dishes to your favourite list, add notes, start a timer, share or shuffle to a random recipe. The only thing missing is the ability to search by specific ingredients.

» Price Free

» Designed for Phone and Tablet

» Requires Android 4.1 and up



Swipe up for recipe details, plus easy to follow step-by-step photo instructions



» like this? try this!



A sophisticated search facility lets you filter its millions of dishes by ingredients used

Kamcord

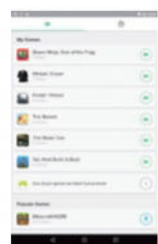
Record footage of you playing your games



Playing games on your own is fun, but sometimes you want to

show off your skills to others.

Kamcord lets you do just that. Taking advantage of Android Lollipop's screen recording API, it could potentially capture footage of any game; however, only a few of ours showed up in its menu. Select a title to launch the game where it starts recording video and audio, plus



sound from the mic – with no option to turn this off. The footage is pristine, but can only be shared via Kamcord or YouTube, not saved locally.

» Price Free

» Designed for Phone

» Requires Android 4.1 and up



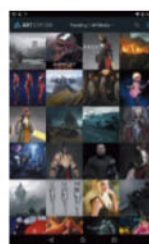
ArtStation

A world of inspiring art



The ArtStation website showcases the creations of artists working (or

hoping to work) in game, film, media and entertainment. Its new Android app enables you to browse its vast library to discover some incredible artwork. Fittingly, the scrolling main screen offers an array of images to peruse. These can be filtered by medium and subject matter as well as searched. Tap an image to enlarge it. You can then share, download,



comment, follow the artist and like the image (though strangely, there's no in-app favourites list). Each picture also has a link to the artist's profile.

» Price Free

» Designed for Phone and tablet

» Requires Android 4.0 and up



Adobe Photoshop Mix App

Cut and paste images to mix them up

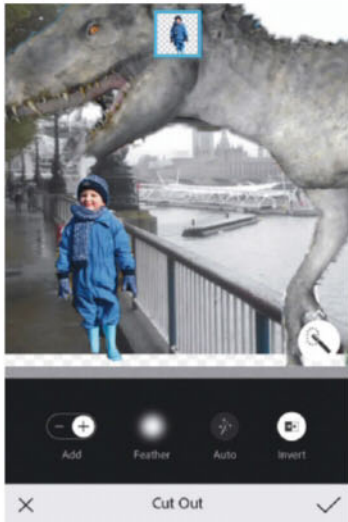


After discontinuing Photoshop Touch, Adobe has launched this much

simpler app. Hardly a direct replacement, it lacks many of Touch's advanced tools, such as the lasso, paintbrush and clone stamp. Disappointingly, it's also limited to just two image layers.

Image layers can be resized and rotated with one superimposed on the other. A Cut Out function does just that, as you paint the desired areas with either a basic or smart brush, or just use the magic wand which can work brilliantly. As well as undoing edits, you can switch to subtraction mode to deselect areas and also apply feathering for edges. A similar painting technique is used to apply filters to selected parts of an image. There are also the usual adjustment tools (exposure, contrast etc) and a cropping facility.

Your results can be shared across the usual social networks, or saved to the Adobe Creative Cloud.



By merging layers, you can superimpose more than two images

- » Price Free
- » Designed for Phone and tablet
- » Requires Android 4.3 and up



Redub

Mash up your own video with music and movie clips



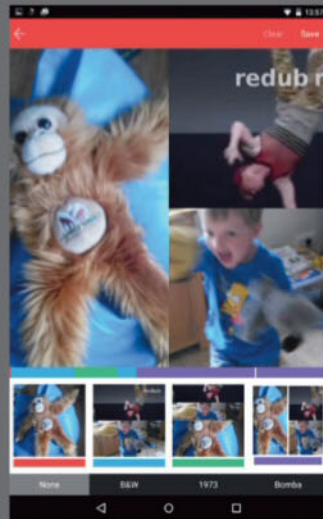
Contrary to our initial expectations, Redub is not a sophisticated video editor – far from it. Nor does it enable you to redub videos with new audio. In fact, it's a fun little app that lets you play short music or movie clips, shoot your own footage to match and then splice the two together for a mini mash-up.

The simple layout features three tab views to swipe between. Latest and Trending show a list of

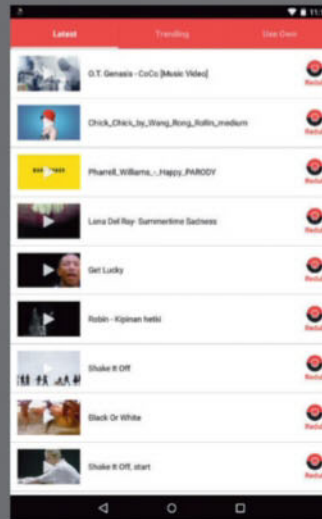
around 60 videos; these are mostly clips (30 seconds maximum) from music videos, along with the odd memorable movie catchphrase, such as Arnie's 'I'll be back'. The third tab lists any Redubs you've already created, along with home videos on the device – although most of ours didn't appear and they can't be used if any bigger than 1280x720.

Upon selecting to Redub a video, it will show up at the top of the screen. Unfortunately, everything's done in portrait mode. Hit the record button

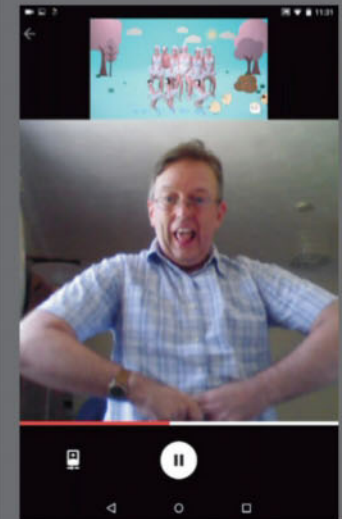
and the video will start playing while you shoot your footage, so you can attempt to sync the two and maybe mime the words (no audio is recorded). There's no opportunity to adjust the timing later, or edit the footage, so if you get it wrong you just have to reshoot. You can pause recording, however, to shoot another angle or subject midway through, you can also switch between rear and front cameras. Once you've finished shooting, you can play back and make on-the-fly cuts between the



Cut between the two videos, adding split-screen effects and filters



Redub provides music and movie clips, or you can use your own videos



The original clip plays at the top while you shoot your footage

Inputting+ : Universal undo redo

Add this undo tool to your Android

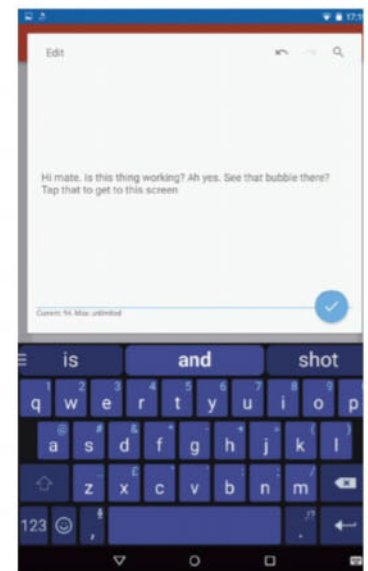


Isn't it incredible that mobile devices still don't have a built-in undo/redo

function when typing text, as you find on even the most basic computer? Currently in beta, Inputting+ aims to provide one. Once enabled, it brings up a small floating bubble whenever you use the on-screen keyboard in Android. Tapping the bubble takes you to an editing page containing anything already typed, and undo/redo arrows that can be tapped repeatedly. There is also a find/replace function, handy for making multiple corrections.

One limitation is that Inputting+ won't work with the WebView system component, such as within Chrome webpages. You can also prevent it from working in certain apps, via a blacklist setting. A pro upgrade (£1.16/\$1.49) unlocks the Timeline option, which stores all of your typed pieces of text from across apps (with optional PIN lock) so you don't have to worry about losing anything.

- » Price Free + IAP
- » Designed for Phone and tablet
- » Requires Android 5.0 and up



It does take a little while to upload and analyse each image

original clip and yours, or use a couple of split-screen views and filter effects. With practice, you can create some cool-looking videos which can be saved and shared, we might soon be seeing a lot of these clips on social media networks. You can even Redub a Redub to achieve more complex results with lots of fast cuts and arty split-screen effects. The app aims to have an accessible interface which makes it easier to navigate and simpler to record videos to your favourite songs with your friends.

» like this? try this!

 **Riff** This collaborative video app enables you to add to and share videos made by your Facebook friends

» specification

Price Free

Designed for Phone and tablet

Requires Android 4.0 and up

» verdict

Performance 

Design 

Value 

A few more options would be nice, but it's great fun to play around with



2 hour wonder

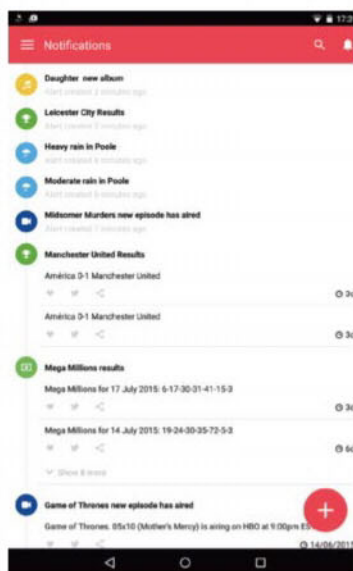
Want your money back? You've got 120 minutes to decide!

 **0-40 minutes**
It's fun trying to emulate music and film stars

 **40-80 minutes**
Home videos don't always appear in the app's list

 **80-120 minutes**
You can Redub Redubs for interesting effects

keep **refund**



You can view a list of all your custom notifications in the app

Hooks – Alerts for Everything

Receive the notifications that matter to you



Notifications are useful, but they can be annoying when there's an endless stream.

It's enough to make us disable them. If only there was a way to receive just the notifications you're interested in. Hooks gives you that option, without needing to install relevant apps to be notified about sports scores, news, weather etc.

The alert screen features three tabs: Popular and Suggested list a range of existing alerts to add to your collection, all of which can be edited. There's also a search facility. The All tab lets you set up a custom alert by

choosing a category (eg Events), a type (eg Music Band Concert) and details (eg Artist, Location), plus an alert time and sound.

It's a great idea, although as you're limited to categories and options, you don't have complete freedom when to create alerts. In addition, it's US-centric in some groups and would only notify us of US TV airings of Game of Thrones episodes.

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



quickhits

5 top apps for...
Custom launchers



Nova Launcher Free + IAP

This versatile replacement launcher offers a stack of options to customise your homescreens. Change icons, layouts, animations and more. Plus handy wraparound scrolling.



EverythingMe Launcher Free

One of several 'smart' launchers, this automatically organises your apps into smart folders, while a 'Prediction bar' suggests apps based on the time of day and location. Amazing, but not for everyone.



Buzz Launcher-Smart&Free Theme Free

If you don't have time to custom-create the look you're after, you can choose from over 800,000 user-created themes. The launcher does it all for you.



Next Launcher 3D Shell £11.49/\$16.99 + IAP

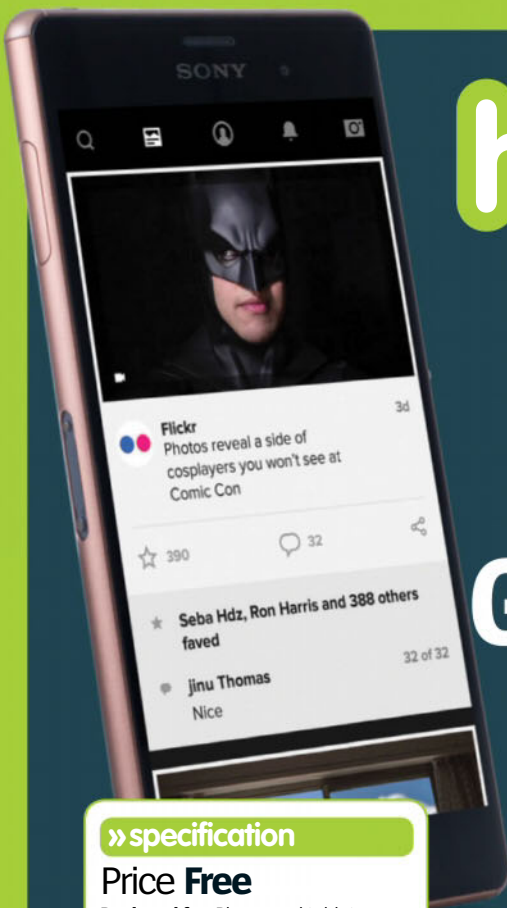
If you want to impress your friends, this is the one to go for. Navigating homescreens involves all manner of whizzy 3D effects, wallpapers and animations. Expensive but very flashy.



Quickr - Action Launcher Free + IAP

Quickr - Action Launcher lets you quickly access selected actions – such as launching apps and toggling settings – by swiping in from four hotspots on the edge of your screen. It'll even work with custom launchers.





head to head

Which app should you use to share your online photos?

FLICKR VS GOOGLE PHOTOS

With summer drawing to a close, it's time for holiday snaps to be uploaded to the web to make your friends jealous. Two of the most notable options are Flickr and Google Photos. Both have their plus points, but which is best?



» specification

Price **Free**

Designed for: Phone and tablet

Requires Android: Varies with device



» specification

Price **Free**

Designed for: Phone and tablet

Requires Android: 4.0 and up

Flickr

Google Photos



Set up for Flickr takes 5-10 minutes. It does require you to set up a Yahoo email account and activate it with a text message code. A bit unnecessarily elaborate.

SETUP



As you're an Android user, we assume you've got a Google account, and Google Photos already, so this part is easy. Automatic upload helps too.



The Flickr app is similar to the website with your photos laid out in a grid. Your profile probably takes up a little more space than is really necessary at the top.

DESIGN



The design of Google Photos is very basic. The photos are laid out in simple rows while the albums and stories are in a single column.



The Flickr community is enormous and very social. You have the option to make your photos public, where anyone can comment on them, favourite them and follow you.

SOCIAL



There is little scope for interactions within Google Photos as it's geared towards storing rather than sharing. You can share photos via the usual methods though.



You can sort your pictures into albums, but it takes more effort than we'd have liked to work out how to do it. Photos in general are sorted in date order.

PHOTO SORTING



You can pinch the screen and instantly see an entire month or year's worth of photos. Creating albums or stories using your pictures is also really easy..



Navigation is pretty easy. Simple swipes take you camera roll to photos to albums. You can view your profile easily to see what others see.

NAVIGATION



If you are familiar with Google apps, such as Google Now or Gmail, it'll be really easy to find your way around Google Photos with Google's familiar side menu.

And the winner is...



You've probably got Facebook or Instagram for sharing your snaps with friends so Flickr's one advantage over Google is wiped out. Google Photos is quicker and easier to use, so for overall photo storing and management, Google Photos wins a photo finish.

EXPERT **Apps** REVIEWS WHEREVER YOU ARE

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100%
DIGITAL



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 **Google play**

 **amazon**

 **zinio™**

 **nook™**
by Barnes & Noble

Vainglory

A mobile MOBA perfected for touch



MOBA (multiplayer online battle arena) is a popular real-time strategy subgenre

on the PC, in which two teams attempt to conquer one another's base. Games can feature complex tactics and lengthy matches, hardly the type of thing to suit the mobile format, you might think, but Vainglory proves it really can work.

Designed specifically for mobile, Vainglory is on a slightly reduced scale. Matches are between teams of three players, rather than the usual five, while the game map features just a single 'lane' connecting the two opposing bases and a jungle area below. Even so, it's hardly a game you can just pick up and play, as there's so much to learn – indeed, you have to complete several tutorial modes before you can even play a match. In addition, matches typically take around 20 minutes to play, so you'll need plenty of time set-aside.



Capturing minion and gold mines in the jungle will give your team a boost



Your minions take the brunt as you attempt to destroy an enemy turret

There are 16 characters to choose from, each unlocked with a combination of Glory (experience) and ICE (in-game currency bought in IAP bundles). A nice touch is that three free characters are always available to try out with the selection rotating regularly. Ranged heroes are good for fighting in the main lane where the aim is to push gradually towards the enemy base, destroying defensive turrets. You're aided by a stream of little 'minions' who act as cannon fodder so the lethal turrets don't aim at you. Melee heroes,

typically aided by a durable support character, are best for exploring the jungle, where they can kill neutral monsters to take control of minion mines (to strengthen your minions) and a gold mine. So, 'jungling' is an essential part of the strategy.

Gold will buy you essential weapon and item upgrades, while experience gained from kills enables you to upgrade your hero's special abilities. You will become more powerful throughout a match. To help mix things up, a powerful Kraken appears at 15 minutes in and can be captured

from one side, often proving decisive in the match.

Vainglory's to-and-fro battles prove fascinating and enjoyable. About the only downside to it is the lack of vocal communication with teammates which is always useful – instead, you're limited to tapping icons for basic commands/responses and emoticons.

» **Price** Free + IAP
» **Designed for** Phone and tablet
» **Requires** Android 4.4 and up



what we've been playing



You Must Build A Boat £1.99/\$2.99

This mash-up of match-three and endless runner genres is compulsive as you gradually expand your boat and its monster crew. We've completed it twice now and still keep coming back.



Hitman: Sniper £3.99/\$4.99 + IAP

Sniping folks is strangely satisfying (mwahahaha), but it's the tactical gameplay that has drawn us in. You need to learn how to use the scenery to make some killings look like accidents.



Recommend a game...

» **twitter**
@lgrobot



Escape

Die, die and die again



This endless flier sees you piloting a rocket through a horizontally scrolling

post-apocalyptic world, avoiding hazards and rescuing humans on the way. Control is simple: tap the screen to fly upwards. Naturally, the slightest contact with scenery is fatal, as is flying off the screen.

There's some tricky manoeuvring through tight passages and when getting close enough to pick up humans, but sadly no opportunity for nifty loop-the-loops. While the scenery is designed, not random, you will crash a lot. To ease the

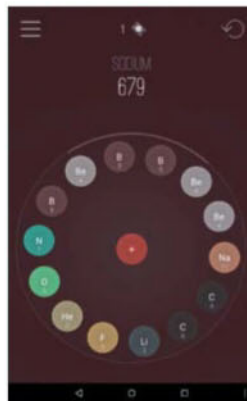


frustration, you can continue from the last checkpoint. However, an IAP (£0.71/\$0.99) to skip an area is a bit cheeky. Still, Escape is fun in short bursts and there are ten hours of gameplay plus daily challenges.

Rescue humans while avoiding any contact with the scenery

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





Lifeline

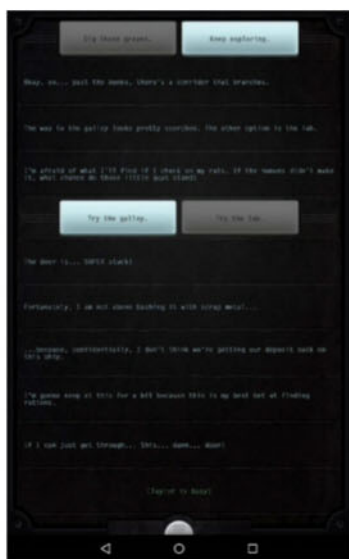
Someone out there urgently needs your help



This innovative title makes clever use of push notifications as you converse via text with

young astronaut Taylor, whose starship has crashed on a strange moon and who urgently needs your advice to survive. Everything's played out in real-time (well, kind of), so you often have to wait for him to do something. While your input is limited to a choice of two options at each juncture, every decision affects how the story plays out and, therefore, Taylor's chances of survival. Often it's just guesswork, although there is the odd moral dilemma – for instance, should Taylor risk sleeping by the ship's burning reactor for warmth or in the cold lunar desert to avoid radiation?

It feels more like interactive fiction than a game, but it's engrossing and you don't want to leave poor Taylor hanging on your reply, even though he'll wait indefinitely for it. One slight annoyance is that the in-game text is quite small with no option to enlarge it. We'd also advise selecting clustered notifications if you don't want your panel flooded with them!



It looks very dull, but the interactive story is compelling and keeps you hooked

- » Price £1.54/\$1.99
- » Designed for Phone and tablet
- » Requires Android 4.0 and up



Xenowerk

Blast radioactive mutants into slimy pieces



Pixelbite's new top-down shooter uses the same engine as Space Marshals, but offers a more action-packed, less tactical experience. A medical research lab has been infested by mutants after an experiment went badly wrong. You're sent in to sort it out. In each of the 50 stages, set across three locations, you explore darkened rooms watching out for mutants as your torch illuminates nooks and crannies. The lack of an on-screen map/

radar adds to the tension as you don't know where enemies might be lurking, although this is somewhat undermined by the map on the pause screen. The latter helps you navigate to various mission objectives, which typically entail pushing a switch, killing a large boss mutant or blowing up a generator.

The dual-stick touch controls work well for movement and shooting. Since most enemies don't fire back, there's no need to take cover behind scenery and not much strategy to the action. Our main tactic involved

firing forwards at approaching mutants while running backwards! Kill-streak bonuses do encourage more aggressive tactics.

While ammo is unlimited, your gun can overheat, but you can always switch to a secondary weapon. Both are selected before each stage and we advise equipping a combination of rapid-fire assault rifle and shotgun/explosives. Weapons are gradually upgraded via power-ups from dead enemies. Better guns and body armour can also be purchased with collected coins – bundles are available via IAP, but really aren't needed. Later armour suits unlock more special abilities, too: healing, speed boost, freeze, no weapon heat-up and damage boost. Since there are no hidden items to discover, there's little point exploring once you've iced the enemies in an area. We would also have welcomed more variety in the mutants and their behaviour rather than blasting the same types over and over. Still, as a no-nonsense action-shooter, Xenowerk is highly polished and enjoyable. There are many levels to purge with only your torch and weapons. Good luck!



Geometry Wars 3: Dimensions

Square the circle in this stonking shooter



This retro-style shoot-'em-up offers old-school difficulty, despite your ship auto-firing at nearby enemies, you can also aim manually using the right on-screen stick. The action soon becomes frantic as you try to dodge wave after wave of new enemies, their imminent arrival signposted by glowing colours.

Constant movement around the grid is imperative, not only to take evasive action, but to collect green geoms for score multipliers – a target score is required to advance to the next level in the main Adventure mode. Coming to your aid are various



The action gets frantic as you avoid enemies and collect power-up geoms

weapon power-ups, along with drones. Unlocked after boss battles, drones follow your ship around, adding to its firepower and can be upgraded throughout the game.

The Android version packs in extra features from the Evolved update,

including forty new levels, five new grids and game modes such as the aptly named Hardcore, which does away with drones and super weapons. The only notable omission is the lack of the console version's multiplayer modes. Still, the solo shoot-'em-up action proves immensely enjoyable and you do get a lot of content for your money. You can also compare scores with other players on a global leaderboard.



- » Price £3.82/\$4.99
- » Designed for Phone and tablet
- » Requires Android 4.0 and up





» specification

Price **£1.42/\$1.99**

Designed for Phone and tablet

Requires Android 4.3 and up

» verdict

Performance

Design

Value

It looks amazing and machine-gunning mutants is surprisingly fun



2 hour wonder

Want your money back?
You've got 2 hours to decide!

» 0-40 minutes The visuals are outstanding, with great lighting effects

» 40-80 minutes The action isn't very tactical, but it's a fun blast

» 80-120 minutes Earning new weapons and armour is satisfying – don't use IAPs!

keep **refund**

Another mission objective: that red glow shows you're low on health

» like this? try this!



Space Marshals

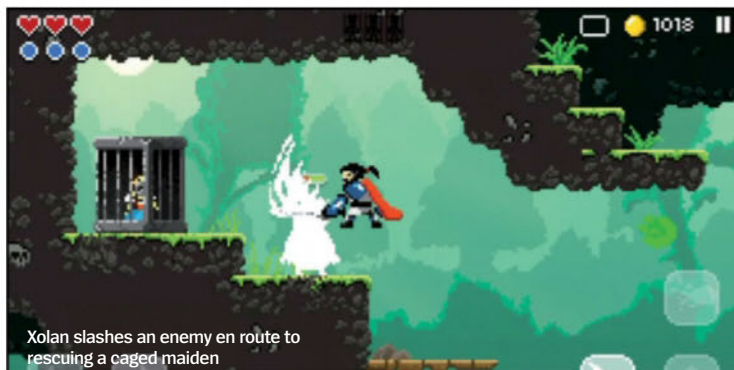
Pixelbite's debut twin-stick shooter features space cowboys and more tactical gameplay

Sword Of Xolan

A pixel-art platformer



This retro 2D platformer stands out from the crowd thanks to its lovely pixel art, good level design and amusing utterances from the hero. The main adventure mode sees Xolan jumping and slashing through 30 multi-way scrolling levels. Control is via several on-screen buttons. Hazards include spike pits, while enemies are dispatched with sword slashes or fireballs powered by potions. Exploration is key, as you seek out crates and urns for coins or extra lives, and there are people to rescue



Xolan slashes an enemy en route to rescuing a caged maiden

on each stage. Secret passages through fake walls often lead to goodies. It's good fun and there's also a mode with timed challenges. An IAP (£0.56/\$0.99) removes ads.

» Price Free + IAP
» Designed for Phone and tablet
» Requires Android 2.3 and up



» like this? try this!



TRAPS N' GEMSTONES » Choose your own route through the interconnected rooms of this neat puzzle platformer

quickhits

5 top games for...
Word game fans

988 BURNS (95) 5620



Spelltower

£1.32/\$1.99

With echoes of Tetris, this well-designed puzzler has you making words in order to make letters disappear and stop the stacks reaching the top - or it's game over. It's highly addictive and four game modes add variety.



Wordfeud FREE

This Scrabble-like game has you competing with a friend or random opponent. It has multiple languages and, to avoid waiting long for turns, you can play 30 simultaneous games.



Ruzzle Free

In this Boggle-style game, you form words by making paths between letters on a 4x4 grid. Make use of the bonuses and try to score more than your online opponent within the time limit.



Wordament Free

Again, you're making words by creating paths on a grid of letters, but this time it's much bigger. Not only that, but you compete against players around the world in real-time contests!



7 Little Words Free + IAP

Crossword fans should enjoy this one. Each round gives you a set of seven clues whose answers are formed from the blocks of multiple letters below. Daily challenges add interest.



Android magazine™ BUYER'S GUIDE

Discover the best smartphones, tablets and accessories to buy in our top ten charts



For the most up-to-date reviews, head to www.littlegreenrobot.co.uk

THE LATEST ONLINE INCLUDE... ONEPLUS TWO » SONY XPERIA M4 AQUA » ALCATEL ONETOUCH IDOL 3

TOP 10 SUPER SMARTPHONES THE BEST FLAGSHIP AND MID-RANGE ANDROID PHONES ON THE MARKET

1		Samsung Galaxy S6 Samsung has come out fighting after the humdrum response to the S5, with this stunning handset made entirely of metal and glass. Samsung has had to sacrifice microSD support and removable battery to make it so thin and light to hold, but it offers a 16MP camera, wireless and superfast charging, improved fingerprint scanner and benchmark-beating processor instead.	£559  See issue 52	
2		LG G4 The LG G4 is a close second for the phone of the year behind the Galaxy S6, with a distinctive leather-back case and superior camera. Its unique Quantum IPS screen will amaze with images that are bright and crisp and offer vivid colours, while its 200GB microSD port offers lots of extra storage.	£499.99  See issue 52	
3		Sony Xperia Z3 Artfully crafted from glass and metal, the Z3 is not just stylish, it's also 100 per cent waterproof. Its 20.7MP camera is one of the most powerful we've seen and the PlayStation Remote Play feature will appeal to gamers. The launch of the Xperia Z3+ is also set to bring down the price of this older model.	£499  See issue 44	
4		HTC ONE M9 We marked the M9 down for only being a very minor update on the M8, but it is undeniably a superb phone. Underneath its elegant silver and gold chrome shell, it houses a superfast Snapdragon 810 processor, 20MP camera, 3GB RAM, 32GB memory and some clever customisation tools.	£579.99  See issue 50	
5		Moto X (2014) The second-gen Moto X remains a contender for best phone, despite launching last year. It offers a stock Android experience with a 13MP camera, 15-minute Turbo charging, but is much cheaper than the Nexus 6, which has the same features. Its other specs are starting to look a bit dated though.	£395  See issue 45	
6		Nexus 6 Google's first phablet, the Nexus 6 is larger than either a Galaxy Note 4 or OnePlus One. This can make it an awkward fit for one-handed use, but the gigantic 5.9-inch QHD display looks fantastic. It also has a super-fast processor and 3GB RAM for zippy use, along with a commendable 13MP camera.	£479  See issue 47	
7		LG G3 Though it's been superseded by the G4, the LG G3 continues to impress us with its pin-sharp QHD 5.5-inch screen, laser-focused 13MP camera and lightning-fast processor. However, its faux metal plastic casing is no comparison for the G4's leather back, and its mono speaker is disappointing.	£276.99  See issue 41	
8		HTC One (M8) While the M9 has bumped the M8 down a few pegs in our chart, it remains a fantastic phone. An all-aluminium design, with a bright 1080p screen and critically-acclaimed dual BoomSound speakers. Not only has its price slashed with the launch of the M9, it can be upgraded to Android 5.0 as well.	£349.99  See issue 37	
9		Samsung Galaxy Note 4 To look at, the Note 4 is a modest update on the Note 3, with a same-size display and continued emphasis on using the S Pen stylus. However, it has been revamped in almost every area. The TouchWiz interface handles better than ever, it has a 16MP camera and has an extra-long battery life.	£549  See issue 45	
10		Huawei P8 The Chinese smartphone company's latest and greatest attempt to break the Western market has certainly grabbed our attention. It offers a svelte, full-metal design with an impressive display and camera for almost half the price of Galaxy S6, but is let down by laggy performance and ugly UI skin.	£348  See issue 55	NEW ENTRY

In case you missed it... **Audio essentials** Read more in issue 52

Trendz in-ear headphones

» Price £10/\$TBC
 » Website amazon.co.uk

While very cheap, these earbuds don't lose much in terms of quality. They sound a bit tinnier than the others but you don't lose clarity at all. The gold buds are a little garish for us, but the silver ones look a lot sleeker.



KitSound Hive Buds

» Price £24.99/\$TBC
 » Website kitsound.co.uk

A comfy pair of reasonably priced in-ear headphones with 11mm drivers that create a clear sound. The range isn't spectacular, but as long as you aren't listening to a thumping low bass, you will have a good experience with these.



RHA T10 earphones

» Price £139.95/\$189.95
 » Website rha-audio.com

The RHA T10 have a very premium finish, with stainless steel earphones and customisable earbuds. Overall sound quality and noise-cancelling is top notch, but we found the metal finish makes them quite heavy.



Sennheiser CX 5.00G

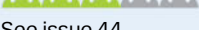
» Price £59.95/\$89.95
 » Website johnlewis.com

The Sennheiser CX 5.00's ergonomic earbud design makes for an incredibly comfortable listening experience. Secure, comfortable and great quality music playback, these are definitely worth the money.



Buyer's Guide

TOP 10 BUDGET BUYS IF YOU'RE SHOPPING FOR A SMARTPHONE ON A SHOESTRING, CHECK OUT THESE LOW-COST MOBILE MUST-HAVES

1		ZTE Blade S6 While its price puts it at the top-end of what we would call a 'budget phone,' the Blade S6 is the best ZTE Blade in years. It runs Android Lollipop, has a 64-bit Snapdragon processor, 2GB RAM and the exact same IMX214 camera as the Sony Xperia Z3 – which costs around three times as much! Its overall iPhone-inspired design is a bit boring, but at 7.7mm, it is a surprisingly slender handset.	From £169.99  See issue 50	
2		Moto G (2015) The newly updated third-gen Moto G (2015) model doesn't offer the same metallic finish as the ZTE Blade S6 or Alcatel OneTouch Idol 3, but you can personalise its design before you buy, like you can the much more expensive Moto X. It is also waterproof, offers 4G, and has a dual-flash 13MP camera.	£179  See issue 55	NEW ENTRY
3		Moto G 4G (2015) Now that the regular Moto G and Moto E have been updated and both offer LTE, this handset doesn't offer much except that it's slightly cheaper than the Moto G (2015). It also looks very similar with a 5-inch screen, booming dual speakers, and vanilla Android 5.0.2, but only offers an 8MP camera.	£149  See issue 51	GOING DOWN ↓
4		Moto E (2015) The second-gen Moto E is nipping at the heels of the Moto G for the title of Motorola's ultimate no-strings-attached smartphone. It also offers 4G and has Android Lollipop built-in, with the added promise of all-day battery. But its 5MP camera, bulky size and poor display reflect its budget price.	£89  See issue 54	GOING DOWN ↓
5		Asus ZenFone 5 While it is one of the most expensive phones in our budget buys chart, the ZenFone 5 offers an awful lot for less than most mid-range phones. A stylish metal design is available in a range of colours, it has a sharp 5-inch screen, powerful Intel Atom processor, and 8MP shooter with a range of modes.	£149.99  See issue 48	
6		Honor 4X The biggest and best of the three Honor phones in this chart, the 5.5-inch Honor 4X has a lot going for it, including a 13MP camera, off-brand octa-core processor, and 4G connectivity. However, you pay for the high specs at a low cost in other ways: it only runs Android 4.4 KitKat and a mediocre screen.	£147.43  See issue 53	
7		Sony Xperia M2 Aqua Just like Sony's flagship Xperia Z3, this mid-range marvel is waterproof up to at least 1.5 metres. Sony's other top feature is here as well, with an 8MP rear camera and a suite of photography tools. The only downside is that, after you factor in all the preloaded apps, it only has 4GB of storage.	£100  See issue 48	
8		Honor Holly The low-end alternative to the Honor 6, the Holly manages to offer 16GB storage, an 8MP camera, a 5-inch HD screen and dual-SIM with only a double-digit price tag. However, you get what you pay for, as the build quality feels quite cheap and it only runs Android 4.4.	£89.99  See issue 50	
9		HTC Desire 510 At 4.7-inches, with a budget price tag and LTE connectivity, this is HTC's answer to the Moto G 4G. However, cost-saving measures such as a 5MP camera and poor screen quality, mean it just can't compete. HTC's Sense 6 UI is still here though, offering one of the best custom interfaces for Android.	£155.99  See issue 44	
10		Honor 3C This frugal 5-inch phablet is a bit behind the times running Android Jellybean and only offering 3G signal and 8GB storage. However, a 5MP front-facing selfie camera, generous 2GB RAM, expandable memory and dual-SIM support help to make this a great phone for first-time users.	£103.77  See issue 49	

In case you missed it... **Petrolhead games** Read more in issue 54

Real Racing 3

» Price Free + IAPs



Real Racing 3 is a sophisticated sim that offers a 22-car grid, 13 real circuits and over

160 customisable real-world vehicles from the likes of Ferrari, Porsche and Lamborghini. The only downside is an overbearing reliance on in-app purchases.



GT Racing 2

» Price Free + IAPs



Gameloft's rival to Real Racing – except without the same annoying car repair

in-app purchases – is a decent, realistic simulation with over 71 licensed vehicles and 1,400 events, including classic races, duels, knockouts and overtakes.



Riptide GP2

» Price £1.59/\$1.99 + IAPs



If you fancy racing on water for a change, Riptide offers some

splashing fun with plenty of depth. There are nine jet-skis to unlock/buy, in addition to a lengthy career mode and four-way online multiplayer.



Asphalt 8: Airborne

» Price Free + IAPs



Living up to its name, Gameloft's high-octane racer features insane aerial stunts off ramps, along with realistic crashes and vehicle damage! There's even a live multiplayer mode.



TOP 10 BEST TABLETS

WHETHER YOU'RE LOOKING FOR A SEVEN OR TEN-INCH DISPLAY, THESE ARE THE TOP TABLETS AVAILABLE ON ANDROID

1		Sony Xperia Z4 Tablet Sony's lightest and brightest tablet ever, the Z4 has made us fall back in love with the 10-inch tablet, where the Nexus 10 left us cold. With a clip-on keyboard and Microsoft apps bundled in, it is a top tablet for when you want to set up a mobile office. But all work and no play makes for a dull device, so the Z4 also supports PlayStation Remote Play and has crisp 2K display screen, a Snapdragon 810 processor, and 3GB RAM to ensure it can keep up with console-quality frame rates.	£499  See issue 54	
2		Sony Xperia Z3 Tablet Compact If the Xperia Z4 is an iPad killer, the 8-inch Z3 has the iPad mini in its sights. Weighing just 270g, it's slim and stylish like its bigger brother, with 3GB RAM and a Triluminos display to boot. It also integrates with the PS4, so the only real difference between the Z3 Compact and the Z4 is its size and price tag.	£269  See issue 46	
3		Google Nexus 9 A mighty Nvidia Tegra K1 processor and 2GB RAM mean that even running the most graphic-heavy games won't slow this 64-bit tablet down. The built-in BoomSound speakers also offer great sound quality, making Google's new tablet an all-round media consumption device.	£319  See issue 45	
4		Samsung Galaxy Tab S 10.5 Ultra thin and ultra bright, colours look vibrant and details distinct on this powerful Super AMOLED screen. Samsung's iPad slayer also puts many other Android tablets to shame, with a multi-window mode to display several apps at once and octo-core processor ensuring lightning-fast performance.	£349  See issue 43	
5		Sony Xperia Z2 Tablet Arguably one of the most portable 10-inch tablets available, the Xperia Z2 Tablet is waterproof and can support a SIM card for 4G use. It is also surprisingly thin and light to carry, and includes power-saving modes to ensure longer battery life. Reasonably high-spec, it has a whopping 3GB RAM.	£329  See issue 39	
6		Tesco Hudl 2 This sequel to the supermarket chain's own-brand tablet can't compete with premium models, but sets a new benchmark for budget tablets. Upping the display size from 7 to 8.3-inches, the Hudl 2 also runs Android 4.4.2 KitKat and can handle anything you throw at it thanks to an Intel Atom processor.	£99  See issue 44	
7		Samsung Galaxy TabPRO 8.4 Wi-Fi The smallest tablet in Samsung's collection, the TabPRO 8.4 proves that good things do come in small packages. A stunning 359ppi screen puts the Nexus 7 to shame, though we'd prefer higher-quality speakers. However, an 8MP camera and intuitive interface are good compensation.	£199  See issue 38	
8		Vodafone Tab Prime 6 Vodafone's 4G tablet is the network's best own-brand device yet, shipping with Android Lollipop built-in, a Snapdragon 410 processor, and 32GB microSD. Obviously it also requires a Vodafone contract, so we recommend buying it outright for £150 and getting the PAYG deal with 6GB data.	£150  See issue 53	
9		Archos 101 Oxygen This wedge-shaped tablet is seemingly tilted to give you a better angle for watching videos, plus a mini-HDMI port to connect it to your TV. But we're not sure why as it has a spacious 10-inch screen of its own, with full HD display and good viewing angles. Speedy ARM Cortex A17 CPU is a bonus though.	£169.99  See issue 38	
10		Amazon Fire HD 6 Despite only having a 6-inch display and a budget price tag, the Fire HD6 is a decent tablet for watching movies and listening to music. However, the inferior forked OS and lack of third-party app support make the Fire HD 6 hard to recommend for regular, let alone heavy-duty use.	£79  See issue 46	

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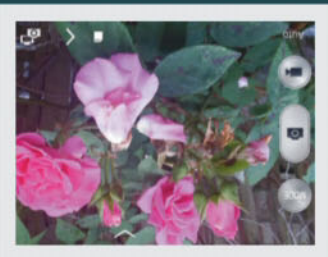
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Did you know?

If you find that your landscape photos come out upside-down, all you need to do is spin the phone around to take your pictures in the future. Unfortunately, many Android phones ignore the fact that some people are left-handed which can make this quite cumbersome.

Headphones stopped pairing

“I listen to a lot of music through Bluetooth headphones while I work. Normally these pair with my Samsung Galaxy Note automatically, but for the last three or four weeks this hasn’t worked. I’ve had to pair them manually in the Note’s settings each time I want to use them”

Adam Markiewicz

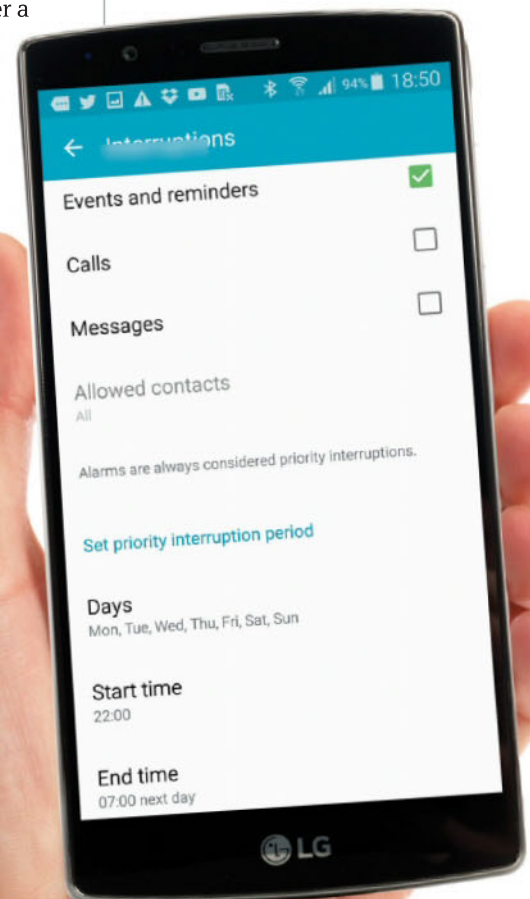
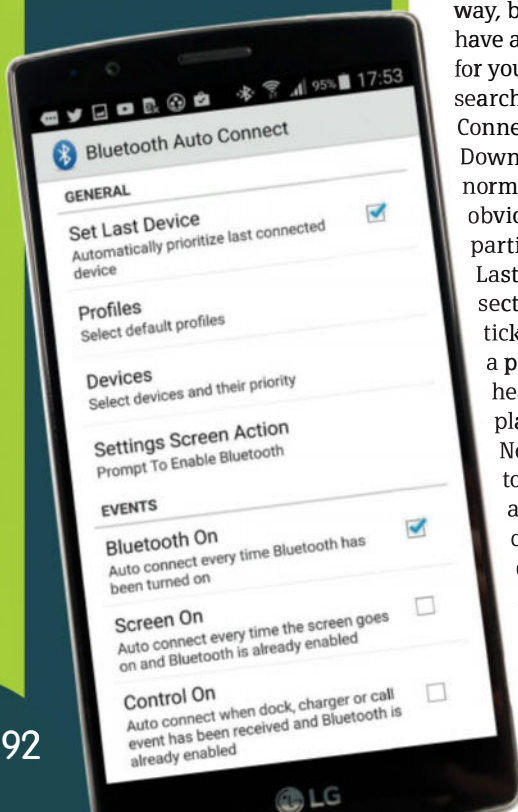
A **Hi there.** The problem with Bluetooth is that it can be unreliable for no apparent reason and we have seen problems arise with automatic connections between any number of devices. Sometimes software is the problem and, at other times, the hardware can be getting in the way, but we believe that we have a solution that will work for you. Go to Google Play and search for Bluetooth Auto Connect which is free. Download and install it as normal, when you open it an obvious screen will appear. Pay particular attention to the Set Last Device and Bluetooth On sections that should both be ticked. We tried the app with a pair of Bluetooth headphones that were not playing well with a Galaxy Note and they worked together every single time after it was installed. You could spend some time experimenting with your Android phone and

Pairing Bluetooth devices is easy, but you won’t want to repeat the process

Bluetooth accessories, such as trying two accessories to see if the phone itself is the problem, but sometimes it is better to find a quick fix that works over a long period. It applies in particular to problems like this because a quick search on the web for Bluetooth connection problems will produce a myriad of examples where some devices work and others do not, in no specific pattern. At least by installing this app on your phone, you are

going some way to ensuring it works with all of your accessories and it does not cost a penny to use.

Bluetooth Auto Connect can solve many Bluetooth connection problems



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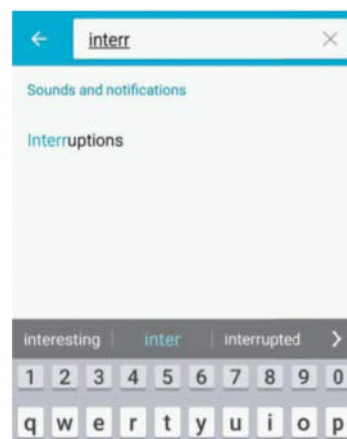
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Send your questions for our team of
experts to tackle

Why won't my phone let me sleep?

"I was quite happy with the Do Not Disturb mode on my phone until I upgraded to Lollipop and now I have lost the feature altogether. I only realised when I kept being woken up. It is starting to drive me mad. Why did Google remove it?" **Natalie Ford**

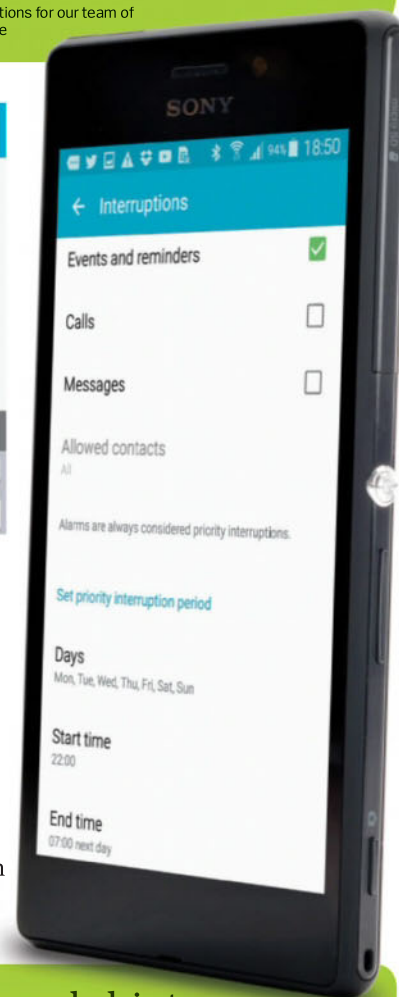
A Hi Natalie. Google hasn't actually removed the feature, but it would be fair to say that the change could have been handled a whole lot better in the Lollipop upgrade. You will need to open Settings and then search for Interruptions. This is the new name for Do Not Disturb and works in largely the same way. Nevertheless, we have heard many stories of updated devices losing their current settings and owners being woken up, which is not the perfect start for any new operating system update. Once you have found the

Interruptions screen, you can choose what type of notifications come through, also at the bottom there are options for start and end times. This will give you a solution that is identical to what you were using before, problem solved. It does, however, highlight how some developers expect too much from their customers and in this case it is almost as if we are supposed to guess the new name for the feature. We would advise to spend some time looking through all of the new features and interface changes Lollipop has to offer because many of



Do Not Disturb is now Interruptions. It is far from obvious

them are quite significant. The good news is that Android now feels completely different. In almost every area we have been impressed with both the consistency of design and the efficient way each feature works. These small bumps in the road are annoying, but in the long run you do end up with a much better experience.

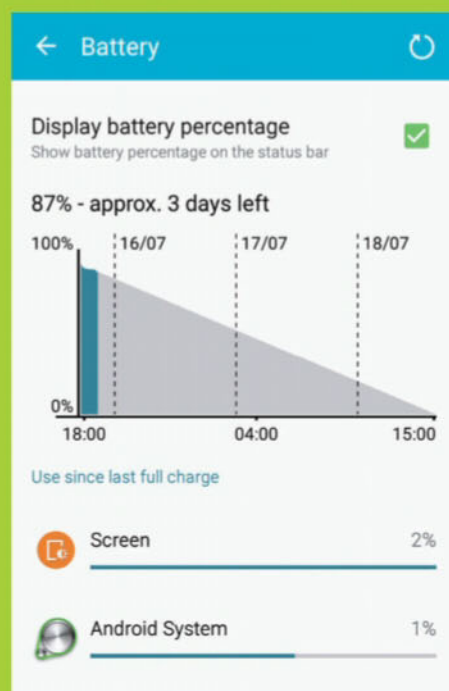


hints & tips

Get more from your Android phone with our handy hints

Stop worrying about battery

1 If you have an option to display the battery percentage in the status bar, try turning it off. A device that easily gets through a day without a recharge will continue to do so and this way you can stop worrying.



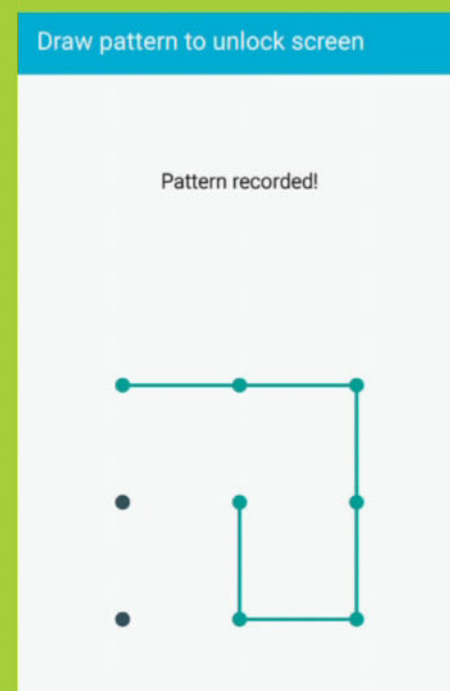
Speed up your device

2 There is a way to speed up your device that you may not know. Keep your home screen the same for as long as you can to breed familiarity. Knowing where things are, is quicker than any processor.



Be aware of fingerprints

3 You may believe that using a PIN or pattern on your lock screen will make your device secure, but please remember that your fingerprints or smudges can be left behind on the screen and show your secure code.



Gmail won't sync properly?

Any ideas why Gmail has stopped syncing properly on my Galaxy phone? It was working fine, but has suddenly stopped working as expected and it's becoming rather annoying. I haven't changed any settings or updated the operating system either.

John Ryder

It should be easy to solve Gmail sync problems

"One of these quick solutions should work for you, but if not, a full factory reset will almost certainly work"

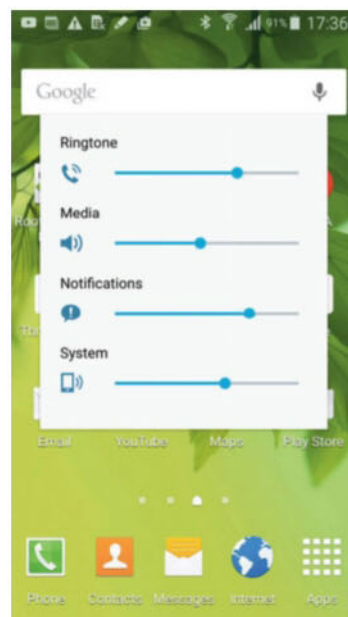
A **Hi John.** The first thing to do is look in Settings > General > Accounts > Google and look for any error messages that show there is a sync error. If not, we would suggest hitting the menu option in this screen, select Cancel sync and then re-enable it. You can also completely remove your Google account and add it again, no data will be lost because it will all be held on Google's servers. A final option is to go to Settings > General > Application Manager > Gmail, then clear the data and cache. One of these quick solutions should work for you, but if not, a full factory reset will almost certainly work. You should, however, be able to avoid this with one or two simple tweaks to get your email working again.

How to mute everything

Hi, I am completely confused and I don't believe that I should be. When I mute my phone to stop notifications, the sound still blares out if I start to play a game or when alarms are timed. How can I be sure that I am muting everything or is this a fault with my phone?

Jannette Logan

A **Hi Jannette.** It should admittedly be a lot more logical to simply mute everything on your phone, but it isn't too difficult once you know how. When you press one of the volume keys, you will



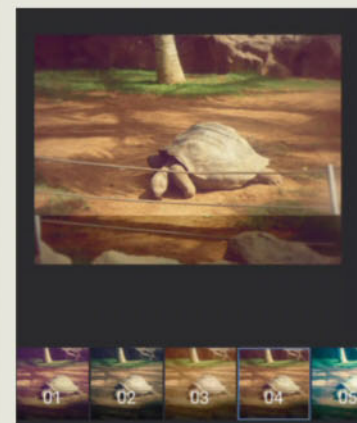
Muting all sounds is a lot easier than you may think

see a small cog icon in the panel. Tap it and individual options for each type of sound including ringtones, media, notifications and system will appear. This may sound unwieldy, but it does mean that you have full control over each type of sound on your device so that you will not receive any unexpected surprises. You can also go to Settings and select Device > Accessibility > Hearing and then make sure that 'Turn off all sounds' is ticked to mute everything. In theory, all alarms should still make a sound so that you will still wake up in time for work even if you have accidentally left everything muted. On the brightside, this is actually a very good feature. Different devices handle features in different ways and this is one area where Android could catch up with the iPhone, but once you know how to manage the sound it should work exactly as you need it to.

Consolidating your photos can be easy

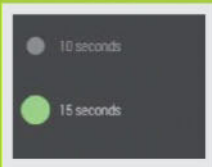
A I have recently decided to move all of my photos to the free Google Photos service and am at a loss as to the quickest way to move my historic images from Flickr, iCloud and other services, this has not been helped by a hard drive failure which means I have very few stored locally. Any tips for the quickest way to merge them all?

Dan Withings



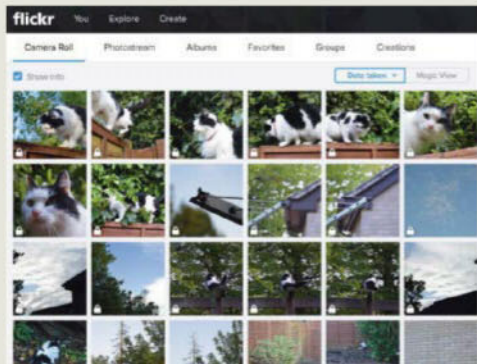
Google Photos is an excellent place to store your photo collection

Hi Dan. There is no speedy way to do this, but we can offer you some solutions to ensure that all of your photos are stored on the one service. You will need to use different tools for each service and ideally a computer will be needed to do all of the hard work in the quickest time possible. However, your time will be well rewarded because you can concentrate on automatically uploading and synchronising your photos with Google Photos in the future. To keep an accurate and complete collection of photos, especially when there are thousands of them, you will need to do the hard work. In the case of Google Photos, remember that photos above 16MB in size and 1080p videos can be compressed to preserve the free pricing structure.



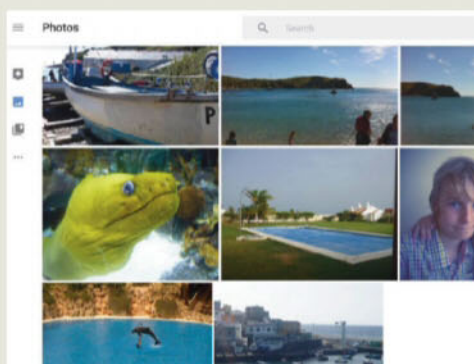
Did you know?

If your Android Wear smartwatch does not stay fully lit for long enough, go to Google Play and search for StayLit Wear. It allows you to set a longer time for the screen to stay on, but be aware that battery life will of course be reduced.



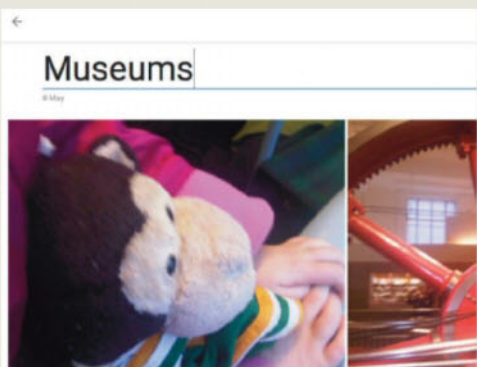
1 Download Flickr photos

Go to flickr.com and sign in to your account. Click Camera Roll and select a photo. Now click Select all and Download at the bottom. The process will now start to download your photos. This could take a long time so be patient and wait until all of the photos are retrieved.



2 Upload your Flickr photos

Now go to photos.google.com and sign in to your main Google account. You will see a small cloud icon at the top which you should click to browse the photos you downloaded from Flickr. Try to upload the photos in batches so you can check that they have all survived the process.



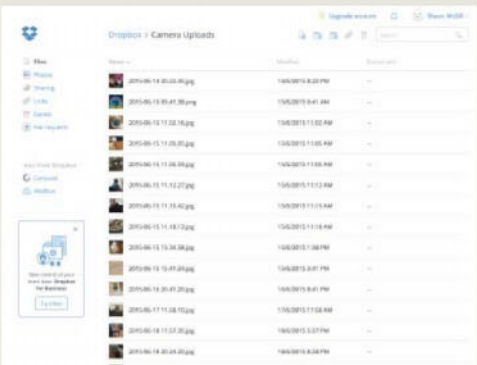
3 Organise your collection

As you upload your photos in batches, try to keep them together. The best way to do this is to separate your downloads into albums and, when they are uploaded to Google Photos, save each batch to a new album. This step will help you view them in order in the future.



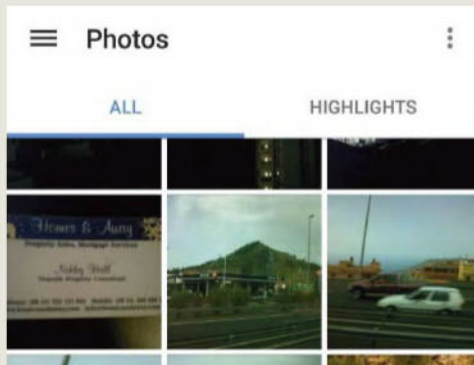
4 Access iCloud photos

Photos stored in iCloud are harder to get to because of the restrictions Apple places on the content. However, there are tools available, such as SynciOS, which let you download and upload photos elsewhere. Remember that you will have to sign in with your Apple ID so always be careful.



5 Online file services

Standard online file services, such as Dropbox, make getting to your photos much easier than some platforms. If you have the Dropbox app installed on your PC, you can transfer photos from Dropbox to Google Photos in one movement which speeds the whole process up a great deal.



6 A full collection

After all of your hard work, the end result should be a finely tuned collection that is all stored securely in Google Photos ready to access on any device you choose. If you take your time, your photos will be organised, easy to view and fully searchable whenever the mood strikes you.

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Assets and resource files for this magazine can be found on this website.

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Android Magazine is available for licensing. Contact the International department to discuss partnership opportunities.

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Email: android@servicehelpline.co.uk
13 issue subscription (UK) – £51.90 (CC)
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13 issue subscription (ROW) – £75

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Printing & Distribution

Printed by William Gibbons, 26 Planetary Road, Willenhall, West Midlands, WV13 3XT

Distributed in the UK, Eire & the Rest of the World by: Marketforce, 5 Churchill Place, Canary Wharf, London, E14 4UH ☎ 0203 787 9060, www.marketforce.co.uk

Distributed in Australia by: Network Services (a division of Bauer Media Group) Level 21 Civic Tower, 66-68 Goulburn Street, Sydney, New South Wales 2000, Australia
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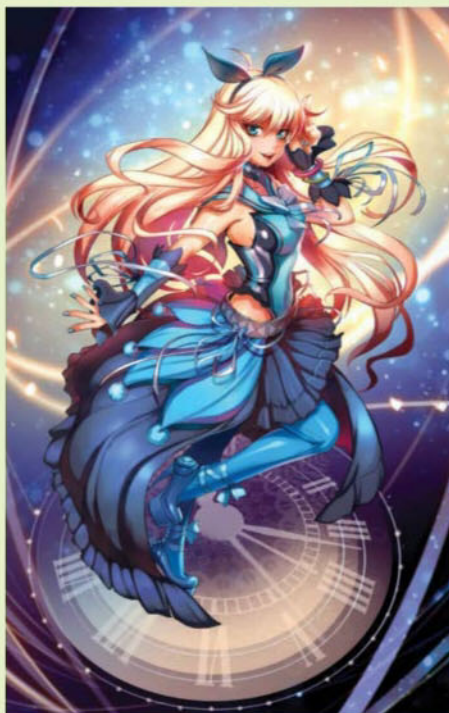
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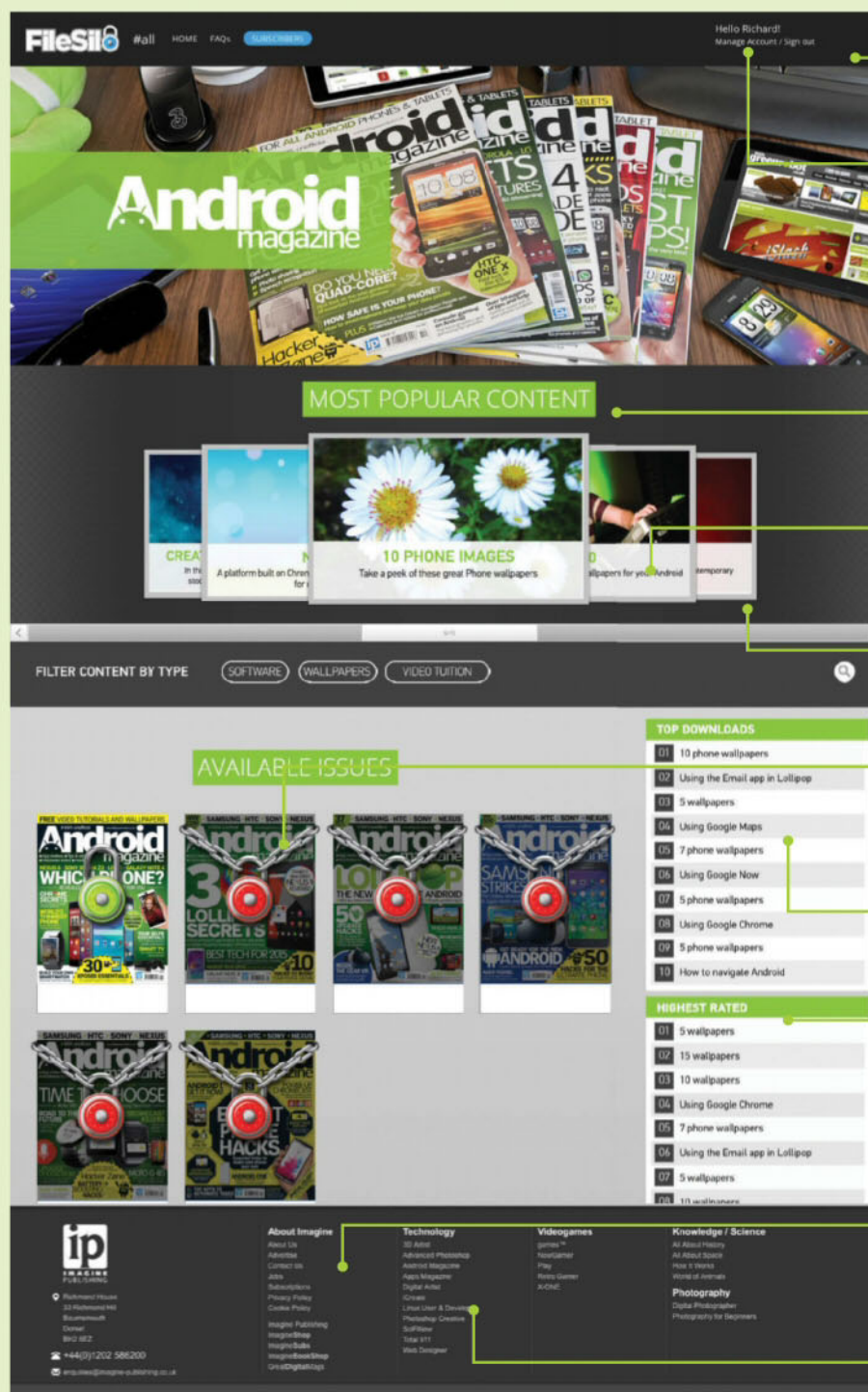
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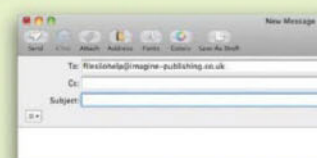


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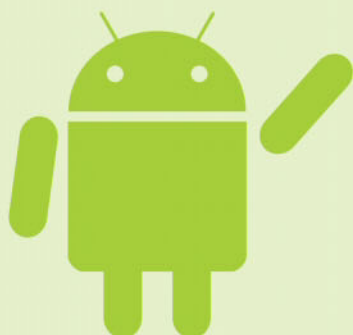
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