



SAMSUNG | HTC | MOTOROLA | LG | ASUS | SONY | GOOGLE

ESSENTIAL GUIDE TO

100% INDEPENDENT

volume 4

android

THE WORLD'S **No.1** FOR SMARTPHONES & TABLETS



MAGAZINE

SAMSUNG
GALAXY S 4

VS

HTC
ONE

VS

SONY
XPERIA Z

THE BIG FIGHT!

WE TEST ANDROID'S NEW
HEAVYWEIGHTS - WHICH
HAS A KNOCKOUT PUNCH?

25 TIPS
AND TRICKS
TO GET THE MOST
FROM YOUR DEVICE

**PLUS: 45 APPS YOU
NEED RIGHT NOW!**

INCREASE
YOUR PHONE'S
MEMORY
WE SHOW
YOU HOW!



**BIG SCREEN
RIVALRY**
SAMSUNG
GALAXY NOTE II
VS
HUAWEI
ASCEND MATE



- Customise your phone
- Personal widgets
- Manage your apps
- Incredible live wallpapers!

TABLET TEST!

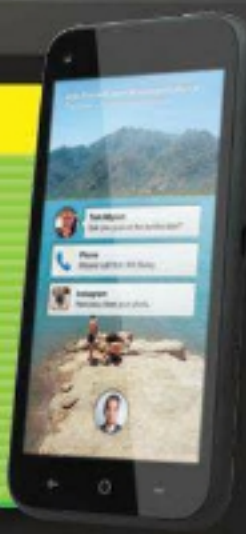
**GOOGLE
NEXUS 10**

Is Google's
latest tablet an
iPad killer?
We find out...

REVIEW!

**FACEBOOK
HOME**

The lowdown
on Facebook's
latest Android
phone launcher



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VOLUME 4

EDITOR'S LETTER

ALL GOOGLY EYED

There was much anticipation surrounding this year's Google I/O event (Nexus 5! Nexus 8! Nexus 11! Moto-Google X! Key Lime!). The Google I/O is an annual developer conference where Google's leading technology gurus provide keynote speeches and provide tantalising details on Google's latest endeavours.

However, aside from a scant few hardware announcements, this year focused mostly on developers and announcements regarding improvements in Google's API (software routines) and services. The only major hardware announcement was the unlocked Google Galaxy S 4. Yes, you read it right. Google tapped its biggest hardware partner, Samsung, on the shoulder and politely re-jigged its flagship – the most powerful phone in the world – for Android purists.

It will give Android enthusiasts what they want: pure Android and an unlocked bootloader, which makes it easy to customise and mod the device. Oh, and it will be sold at US\$649, a good US\$50-100 less than the non-carrier Samsung Galaxy S 4 version. No info on its Australian cost as yet, but a price bump is begrudgingly anticipated.

There was also a conspicuous absence of all things Google Glass, the famed Google wearable tech, and we've heard many things from current beta testers (both good and bad). We were plum disappointed that we didn't get any updates on it to share with eager potential users right here in Australia.

But enough of that – onto the magazine! And we have a big one this issue. The biggest Android players in the industry (HTC, Samsung, Sony) have taken a gamble on their flagship phones and all three of their best tear the socks off anything on the market – and eat an Apple a day, with relish. We pit them against each other in a three-way prime battle, and we're pleased that a worthy winner emerged. See the dukes fly on page 26.

Along the way, we test big-screen sizzlers (p.34), wrestle with the best tablets on the market (p.52-63) and preview Android console gaming (p.64). Plus, we have reviews of more than 50 apps you absolutely need to check out on your Android. In addition, you'll find 25 tips and tricks on how to master your device.

We are looking forward to the rest of the Android year. With Key Lime Pie just scant weeks away and a slew of devices even more powerful than the Samsung Galaxy S 4 waiting in the wings, we are in for an outstanding next few months.

Gary



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Rooting your Android device is not recommended by Google. It can result in voiding your device's warranty and/or permanent damage. Android users root at their own risk.

Prices correct at time of writing but subject to unforeseen change.

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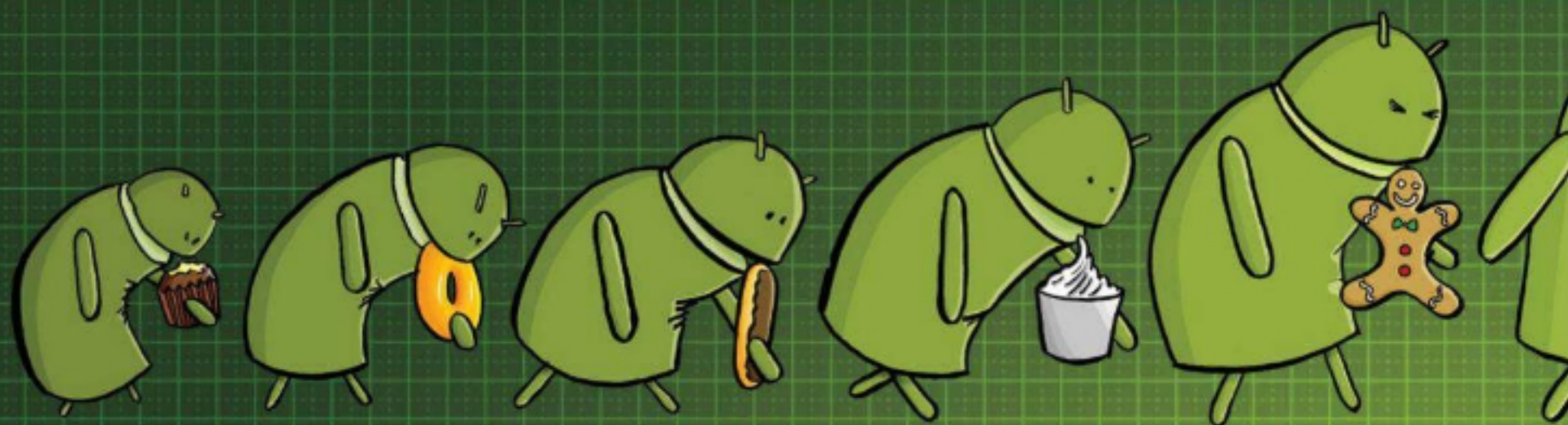
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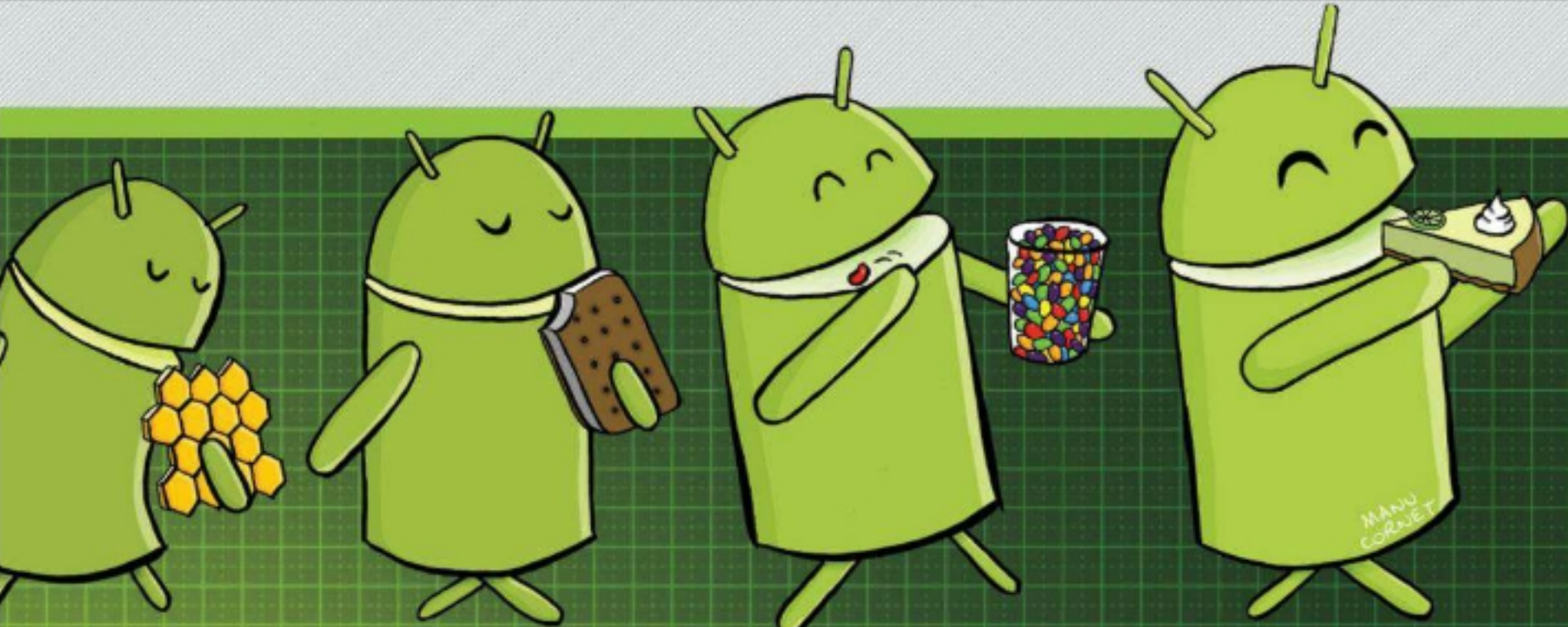


PAST, PRESENT AND FUTURE

The Android operating system has been in the hands of users since 2008. From the very first T-Mobile G1 (made by HTC), which featured Android 1.0, Android has gone through no less than eight major revisions. Here is a look at the history of Android.

IMAGE AUTHOR: MANU CORNET
SOURCE: WWW.BONKERSWORLD.NET





The very first Android phone was released in October 2008 and went on to sell 1 million units. The T-Mobile G1 only went on sale four months later in Australia under the moniker **HTC Dream** (with updated Android 1.5). It had modest specifications, including a 3.2mp camera, slide-out keyboard and poor battery life. It was a monumental phone that kickstarted the Android revolution.

10
ANDROID
SEPTEMBER
2008

15
CUPCAKE
APRIL
2009

16
DONUT
SEPTEMBER
2009

1.0 - 1.1

When Android launched with version 1.0, its features were remarkably simplistic, apart from its novel pull-down notification window and widget support. With its tiled interface, it looked too much like an evolutionary update of Symbian. There was no multitouch, developers gave little support for widgets and the Android Market was sparse. It did however, come with Google's spate of apps, including Gmail, Search, Maps and YouTube. Onscreen keyboard? Not so much. Version 1.1 came a few months after, offering mainly bug updates and little else.

1.5 CUPCAKE

The first public Android version to carry the internal codename of a dessert was a marked improvement over the initial Android with a slew of features we now take for granted, such as an on-screen keyboard, Bluetooth A2DP, browser copy and paste facility, and automatic rotation. Aesthetics-wise, it differed little from the previous version. Widget support gained traction and many developers started to provide their own app widgets. The addition of the on-screen keyboard made it a fit for launch with the HTC Magic, the first touchscreen-only Android phone.

1.6 DONUT

While it was only an incremental upgrade, 1.6 Donut earned its desserts for being capable of supporting multiple resolutions, up to WVGA 800x480 and in both landscape or portrait mode. The other main changes were the introduction of Google's quick search box - which allowed searches to be conducted via text or voice, across local and online content - and closer integration of the Android gallery and camera apps. Donut was the last iteration of Android 1.x, coming in almost exactly a year after the introduction of Android.

2.0-2.1 ECLAIR

One month after Donut reared its sugarised coating, Android 2.0 Eclair gave users access to multiple accounts on the same device, live wallpapers (which power users shun) and multiple screens to call home. The first device that featured Android 2.0 was the aptly named Motorola Droid. Eclair also introduced turn-by-turn Google Navigation, which, in retrospect, really led the way to the end of personal navigation devices from the likes of Garmin and TomTom.

Version 2.1 was released shortly after, in 2010, with the HTC Nexus One. The HTC Nexus One was the first Google-fied flagship phone.



2.3 GINGERBREAD

Half a year after Froyo, Android 2.3 Gingerbread arrived with the Samsung Nexus S (see below). Looks-wise, Gingerbread carried refinements that catered to battery conservation (status bar is now white text on black background). Subtle improvements also appeared, such as a more robust copy and paste control (users can now copy by individual word), a vastly superior keyboard, overall optimised battery management and NFC (near field communications) support.

2.0
ECLAIR
OCTOBER
2009

2.2
FROYO
MAY
2010

2.3
GINGERBREAD
DECEMBER
2010



In the month of January 2010, Google and HTC released the heralded **Nexus One**, which featured Android 2.1 Eclair as an unlocked, telco-agnostic, bare-bones Android experience. It was also one of the first 1GHz Snapdragon processor devices. The Nexus One was notable as being the first in a line of pure Android phones culminating in the current Google Nexus 4.7 and 10 devices.

2.2 FROYO (FROZEN YOGURT)

By the middle of 2010, the next iteration of Android, dubbed Froyo came about. The chief improvement was performance, with a new compilation engine and OpenGL graphics refinements. One other notable addition was USB tethering and the portable Wi-Fi hotspot capability that allowed other devices to connect and use the Froyo device's Internet. Froyo was also notable for featuring support for Adobe Flash, something that iOS was consistently being hammered for lacking.

This time around, Google partnered with Samsung to annex the next sexy Nexus, featuring Android 2.3 Gingerbread. The **Nexus S** appeared on Vodafone networks in Australia early 2011. It is notable as the first 4in smartphone with a curved glass display. It was also 'root-friendly'.



One of the main drawbacks of the **Motorola Xoom** upon introduction in May 2011 was its price. It was released in Australia with an exorbitant RRP of \$840 and, curiously, a deactivated SD-card slot (finally enabled in Android 3.2). At the end of its product cycle last year, it finally sold for a little under A\$400, less than half its introductory price. The Motorola Xoom came with a host of accessories, including a docking station.



3.0-3.2
HONEYCOMB
FEBRUARY
2011

3.0-3.2 HONEYCOMB

A few months after Gingerbread broke ground, a split variant of the Android OS appeared in 2011, albeit only for tablets. It was notable for moving away from the green tones used in Android UI design towards very *Tron*-like blue and optimised heavily for tablet viewing. To take advantage of more powerful hardware and more screen space. There were improved multitasking features (introducing the new Recent Apps button) and re-designed new app layouts. Physical buttons have also been done away with for the pure Google tablet experience.

4.0 ICE CREAM SANDWICH

Google departed from the Honeycomb shenanigans and went back towards a unified OS with Android 4.0 Ice Cream Sandwich. It took cues from its predecessor in UI and virtual buttons, but added a host of glorious features that were long coming.

UI

The unified UI allowed developers to optimise apps for both tablets and smartphones and the polished aesthetics really stood out.

NOTIFICATIONS WHILE LOCKED

Messages, missed calls, alarms, calendar updates and other notifications can now appear in the unlock screen. Some apps controls, such as music players, are also accessible from the lock screen, allowing users to skip, pause or play tracks without the need to unlock the phone.

WIDGET RESIZE

It is now easier to resize a widget. Just press-hold a widget and the re-size handles will appear, allowing users to customise the widgets to a size they want.

BUTTON-LESS

Google's push for the extinction of physical buttons proceeded with ICS and the virtual buttons from Honeycomb made an appearance on smartphones. Nonetheless, we do still rely on physical power and volume buttons on regular smartphones and tablets.

4.0
ICE CREAM
SANDWICH
OCTOBER
2011

GESTURES

Swipe gestures can be used in apps and system functions. For instance, notifications can be removed by swiping to the right, phone calls can be made by swiping a contact to the right, while a swipe to the right brings up the messaging app for the contact.

FACE UNLOCK

Using the front camera of a phone or tablet, Face Unlock allows the OS to recognise a face (hopefully, the users) and use this recognition as a means to unlock the phone. It's not foolproof, but it was a nifty novelty.



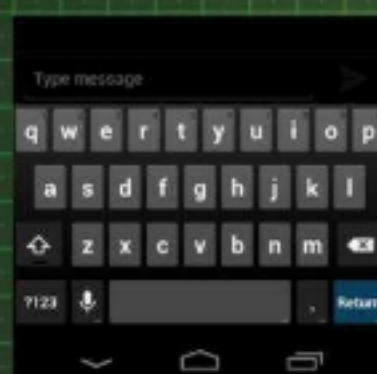
Google's foray with Samsung on the smartphone end resumed with the **Galaxy Nexus**. The most notable improvement is the high-definition 720 x 1280 Super AMOLED display, with the same curved glass arc of the Nexus S. It was first released in November 2011 along with the newly minted 4.0 Ice Cream Sandwich.

4.1-4.2
JELLY BEAN
JUNE
2012



JELLY BEAN ANDROID 4.1-4.2

While it only has an internal increment of 0.1, Android 4.1 Jelly Bean came with a host of really impressive improvements, not least of all the acceleration in system speed in what's known as 'Project Butter'. The project represents a genuine effort to curtail the slight lag and occasional lack of responsiveness in Android.



KEYBOARD

The Android keyboard gets a hefty push to relevance and its predictive algorithms have advanced to pretty much on par, if not exceeding third-party keyboard predictions. As a first, voice dictation can be done offline, albeit at less-than-stellar recognition levels.



GOOGLE NOW

Google's answer to Siri is finally ready for its limelight in Jelly Bean. Searches through Google Now gives flash card details with basic, location-based information on it, such as weather, appointments and the like.



CHROME DOME

Google's mobile version of the Chrome browser has finally come out of Beta and is the default browser in Jelly Bean. The Chrome browser brings with it all of the functionality and connectivity of the desktop version, such as full-tabbed browsing, fast page loading and allows users to share pages, bookmarks and apps through their Google account.

THE FIRST JELLY BEAN



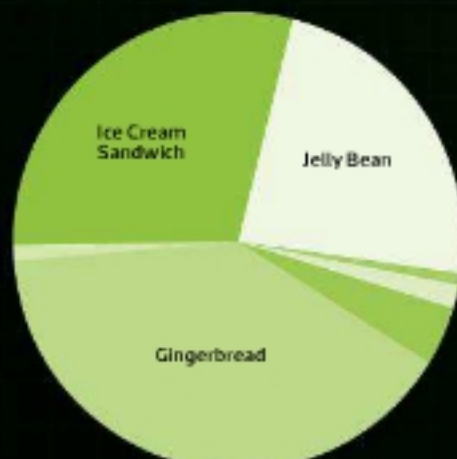
After cosying up with Samsung, Google chose to jump into bed with Taiwanese makers Asus for their first tablet and the **Nexus 7** was a triumph. Enthusiasts heralded it for its customisability and power while regular users just appreciated its too-good-to-be-true sub-US\$200 price point. Indeed, reality for Aussies was a kick in the face, as we had to contend with \$249 instead. It was still an affordable device, just not in the same league as the American release. Still, it swept tablet awards the world over and made 2012 the year of the Nexus 7.

WHAT'S YOUR DROID?

Based on the figures on the Android developers website, it appears that a majority of users still held on to 2.3 Gingerbread, no doubt fueled by emerging market devices. Nonetheless, the adoption of ICS and Jelly Bean indicates that at least half of Android users have already moved to the era of 4.0.

VERSION	CODENAME	DISTRIBUTION
1.6	Donut	0.1%
2.1	Eclair	1.7%
2.2	Froyo	4.0%
2.3-2.3.2	Gingerbread	0.1%
2.3.3-2.3.7		39.7%
3.2	Honeycomb	0.2%
4.0.3-4.0.4	Ice Cream Sandwich	29.3%
4.1.X	Jelly Bean	23%
4.2.X		2%

Data collected during a 14-day period ending on April 2, 2013.

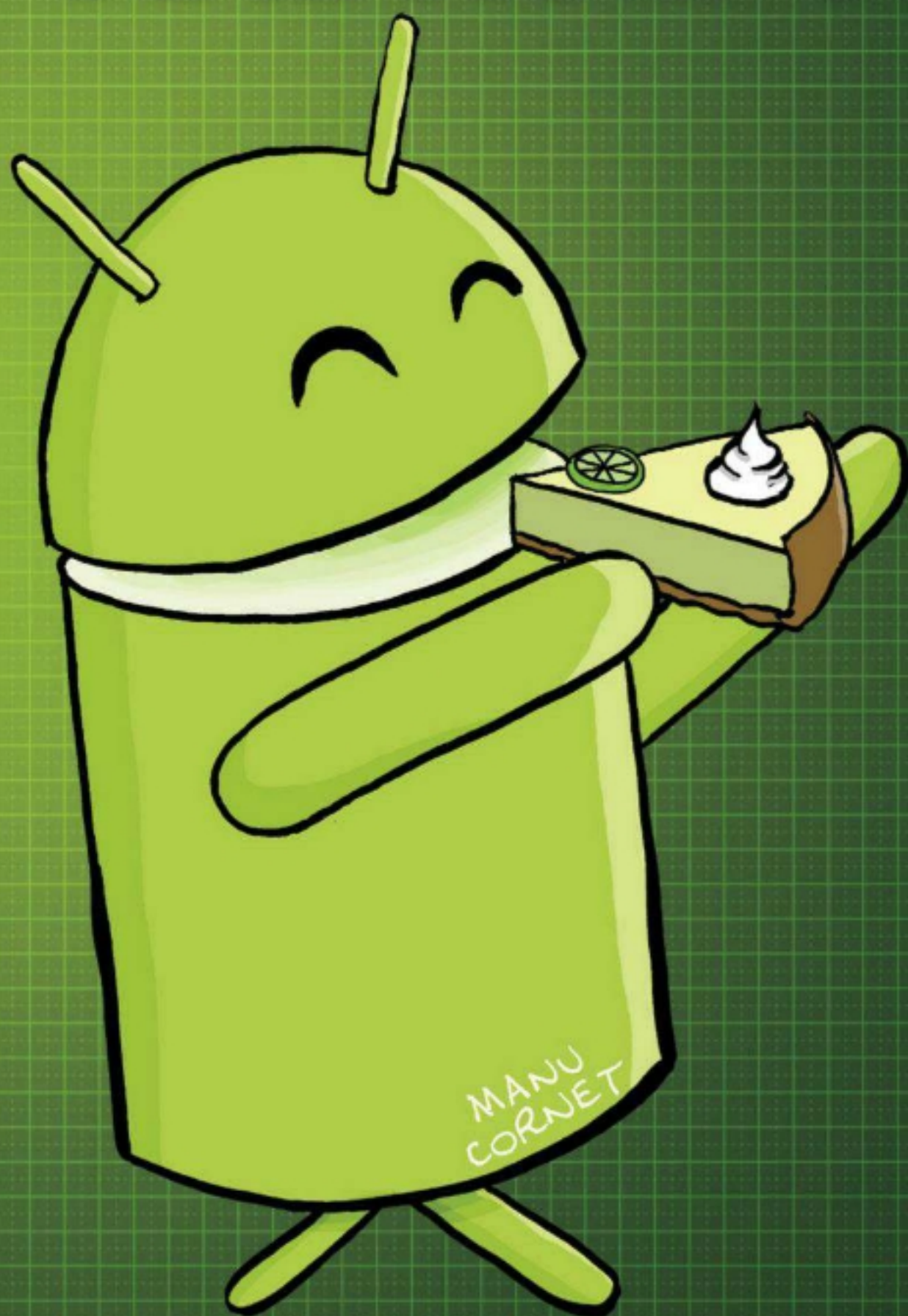


Source: developer.android.com



5.0
KEY LIME PIE
???
2013

KEY LIME PIE ANDROID 5.X



Despite not officially recognised as the Android K-dessert name, Key Lime Pie is the internal moniker that stuck. Last years Google's annual I/O event introduced Android 4.1 Jelly Bean. An educated betting man would place odds on its introduction at this year's I/O event, but alas, it failed to materialise. Nonetheless, we take a look at the additions and most-wanted features that users are clamouring for in the new Android – when it appears.

PROJECT BUTTER PART II

The significant improvements in speed and UI fluidity was a game changer for Jelly Bean. ROMs that carried the 4.2 Jelly Bean codebase even gave older phones like the Samsung Galaxy S a new lease of life. The aptly named, but now debunked, Project Roadrunner gives a glimpse of what KLP should concentrate on; a faster experience with improved battery life.

SOCIALLY ADJUSTED

Apart from Google+ integration, KLP should have greater integration with social networks such as Twitter and Facebook. With Facebook introducing its own home launcher at its heels, KLP should review the approach of seamlessly integrating social apps to a greater degree within the operating system.

WE WANT IT NOW

Yes, Google Now was an eye opener, but it remained largely an add-on product that was hardly integral to the Android experience. Google Now should be a fluid and essential experience for all Android devices, utilising greater onboard processing and optimised 4G bandwidth for quicker and more accurate recognition.

HOMESCREEN RENOVATION

The ubiquitous Android home screen with a separate app drawer should change with the times. The Windows Phone 8 experience, while it was a commercial failure, does show potential in its pure, simple, modern and most of all, consistent tiles. Here's hoping the Android home screen gets a makeover long overdue.