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iPHONE 5: INCREMENTAL OR INNOVATIVE?

PLUS:

**MOTOROLA'S
DROID RAZR M**

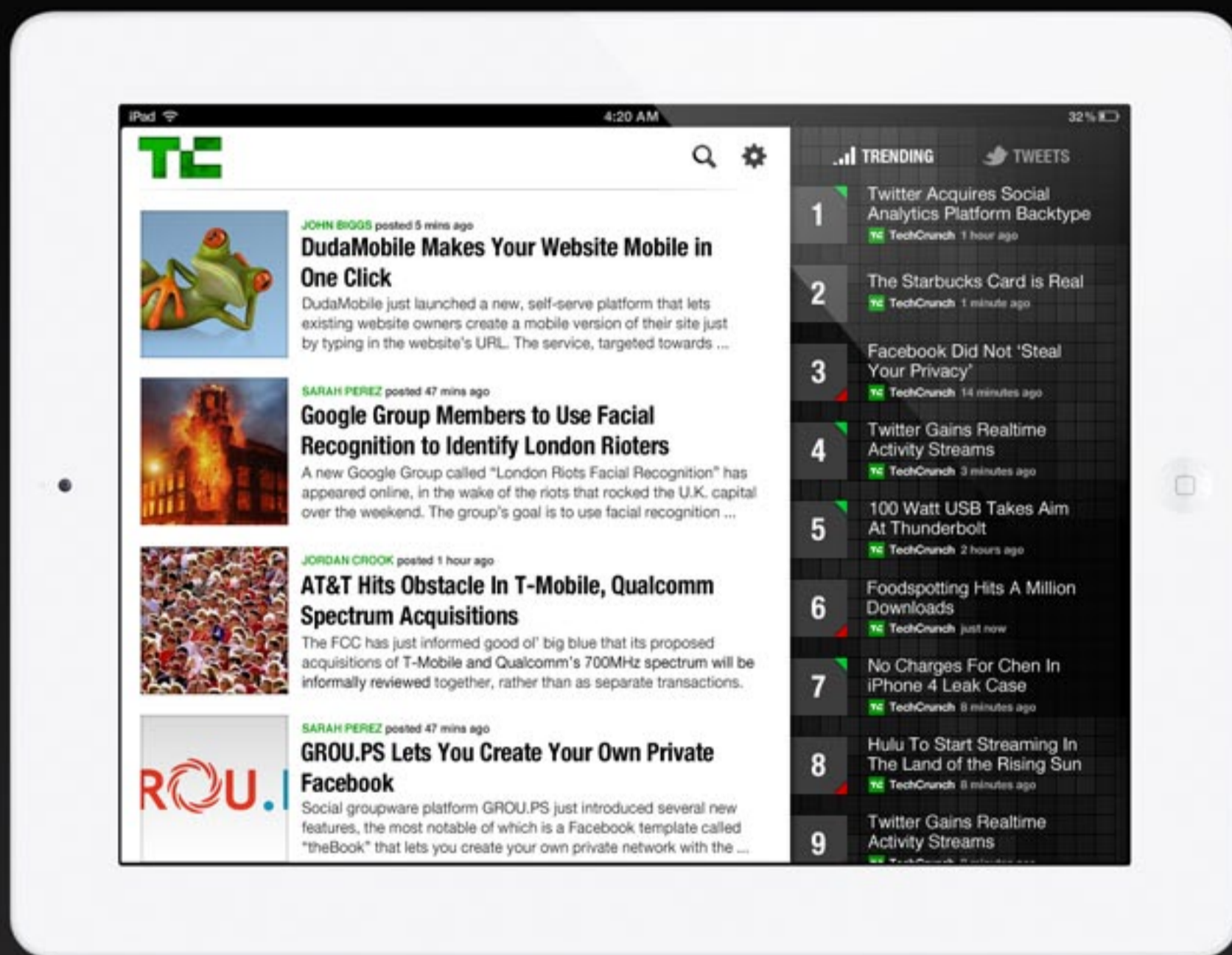
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SPECTRE XT**

**AND TV IN
THE SKY**



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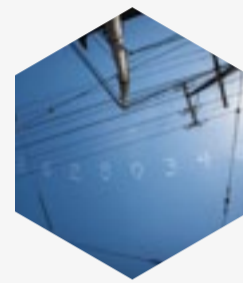
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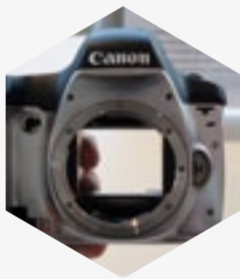


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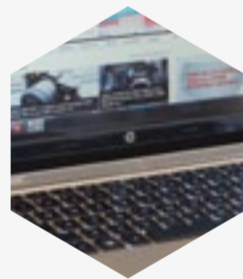


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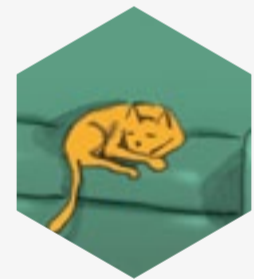


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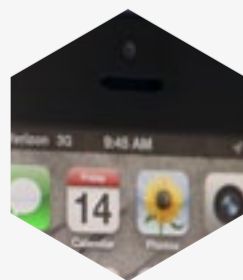


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**TIME MACHINES
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Like A ...**



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EDITOR'S
LETTER

The iPhone 5 has been

unleashed upon the world. I talked about it a bunch last week so I'll spare you the dissertation this week, though indeed my full review of the device is waiting for you just a few pages away, should you want to know more. Even if you have no interest in buying an iPhone now, or ever, I hope you'll give it at least a casual read. It's a device engineered with a purity of design and manufactured with an attention to detail rarely seen on any other platform.

It's this kind of attention to detail that I wish more Android manufacturers would bring to the table — though it's obvious that they're paying attention. HTC this week unveiled its two Windows Phone 8 models, phones it's calling "hero devices." Basically, HTC claims that these two will define *the* de facto Windows Phone experiences when they ship this November — so much so, that they weren't really given distinctive names.

The first, the big one, is the "Windows Phone 8X by HTC." The second, slightly smaller and (presumably) cheaper, is the "Windows Phone 8S by HTC." While the names are unremark-

able what caught my eye was the attention to detail, particularly in the 8X. At the company's brief unveiling event in NYC, where Steve Ballmer reprised his role of Windows Phone cheerleader (a role he made famous at the Nokia NYC event a few weeks back), HTC reps ran a video espousing the attention to engineering detail paid to every facet of the 8X's construction.

The polycarbonate used to form the body, they said, was chosen after dozens of formulations were discarded. The internal components were all customized to enable them to be stacked efficiently, the camera construction revised to eliminate the little bump seen on the One X (itself a wonderfully designed phone) and a precise sequence of drilling used to create the grille on the bottom.

In fact, HTC spent so much time talking about design that it didn't bother to list any specs for the devices at all. Not even screen size. The closest thing we got was a recurring reference to the 8X's "magical thinness." That claim is due to the thing's tapered edges, but it actually measures 10mm — thin, but hardly world-class. It has a 4.3-inch



720p LCD and a dual-core Snapdragon S4 processor running at 1.5GHz paired with 1GB of RAM, but just 16GB of storage and no expandability.


The 8S, meanwhile, steps down to a 4-inch WVGA display, a 1GHz S4 chip with 512MB of RAM and a mere 4GB of storage, thankfully backed by microSD expansion. HTC did one better than Nokia by giving us a vague idea for when we can expect these devices (November), but again failed to give us a price and wouldn't let us explore the operating system itself. Microsoft is still keeping hands-off for Windows Phone 8, and that's pretty disconcerting since we're just over a month away from launch.

Across the pond, Motorola unveiled the European flavor of the Droid RAZR M. As the thing was getting its passport stamped it had its innards swapped, an Intel Medfield processor replacing the ARM unit that was in there before. At 2.0GHz it's the fastest such chip we've seen in a smartphone and so we wasted no time in running it through the usual suspects of Android benchmarks. In general it delivered numbers that fell slightly to moderately behind its American cousin — except when it came to the SunSpider benchmark, which is a good indicator for web performance. There, it was *significantly* faster, leaving us wondering how it will perform in the real world. Stay tuned to find out.

Samsung announced that the successor to the Galaxy Note, the device that made phablet a household name

(in certain, very nerdy households), would be coming to the US in mid-November. Even better, it'll arrive on all the major domestic carriers — even US Cellular. Samsung also showed us pictures of flip covers available in a vast array of tepid colors. Excitement. No word on pricing yet, disappointingly.

Finally, the iPhone 5 wasn't the only thing Apple shipped this week. iOS 6 hit mobile devices all around the world this week, bringing the new Maps application that is attempting to stand up to Android's Google Maps. In general, it's nowhere near as good, lacking public transport directions and plenty of mapping detail. This is an area Apple is going to have to massively improve upon, and quickly, to bridge what has become a very important piece of smartphone functionality.

In this week's Distro you can read about that and other aspects of the iPhone 5, with my full review ripe for the tapping and swiping. Joseph Volpe evaluates the Droid RAZR M, the ARM-powered one, which has quickly become my favorite mid-range Android smartphone. We have Sarah Silbert's review of the HP Envy Spectre XT and Darren Murph tells you why customer service still matters. We hope you enjoy. 



TIM STEVENS
EDITOR-IN-CHIEF,
ENGADGET



ENTER

EYES-ON

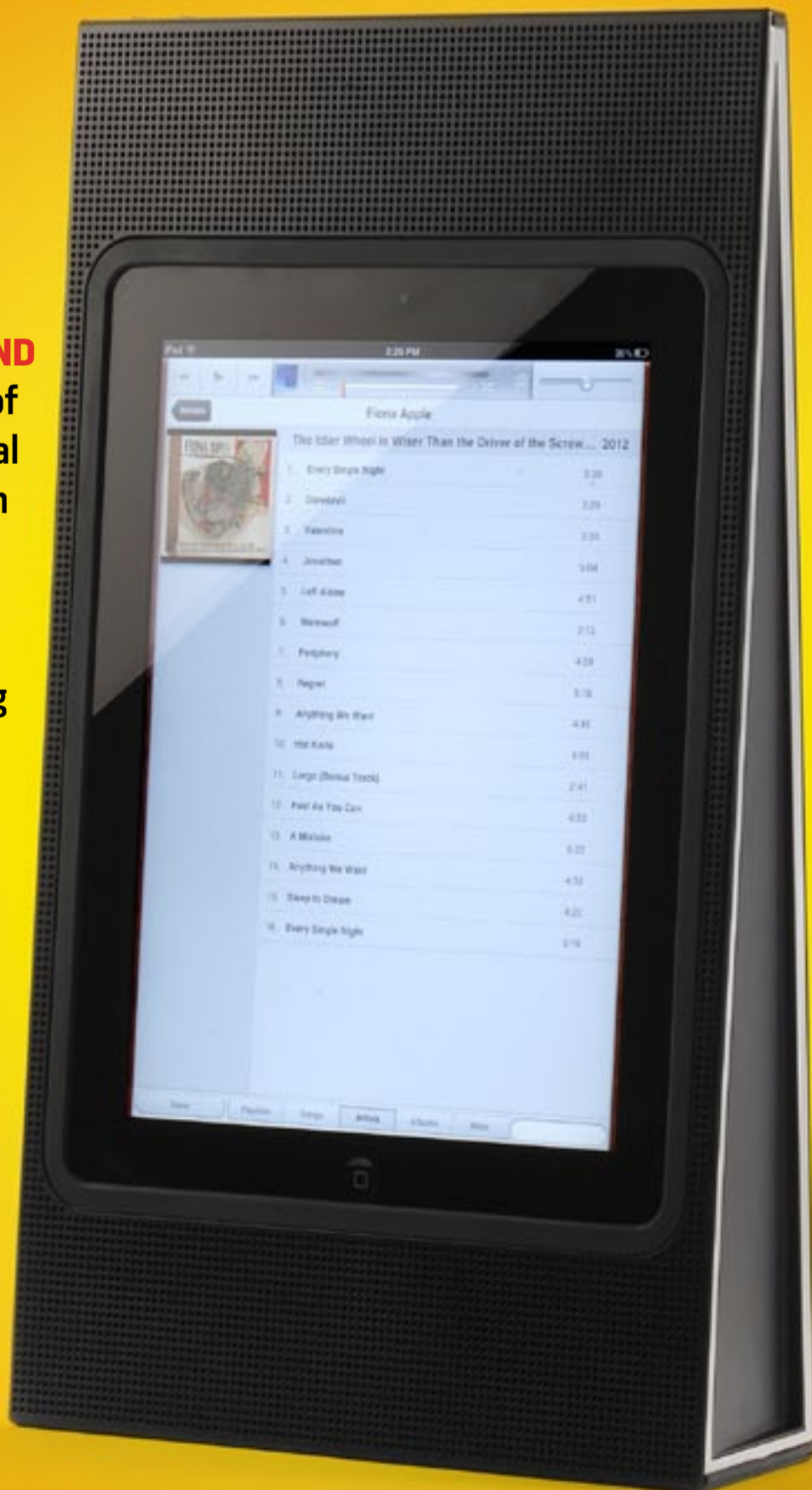
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B&O BEOPLAY A3

WEDGE OF SOUND

From the mind of Danish industrial designer Steffen Schmelling, the man behind B&O's flute-mimicking BeoTime alarm clock, comes the BeoPlay A3. This iPad dock plays nice with all three of Apple's slates, providing a sound boost for your iOS-wielding tablet.

THE DAMAGE
\$549



Tap for detail



SMART SPEAKERS



MINIMAL
CONTROLS



FINER
DETAILS





PRICE: TBD

AVAILABILITY:
NOVEMBER 2012

THE BREAKDOWN:
HTC'S MAKING A
BOLD MOVE ON
WINDOWS PHONE 8.



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WINDOWS PHONE 8X

One thing's for sure: HTC's not playing it safe with the Windows Phone 8X. The flagship line, officially announced at its event in New York this week, arrives emboldened not only by an array of lively hues, but also with the mark of the mighty Microsoft, itself. Yes, you need only glance at the handset's name to know this tapered, polycarbonate affair bears an intrinsic connection to the UI it aims to bolster; a symbiotic bond made all too apparent by the hard-edged, modern hull housing the equally modern, live-tiled WP8 OS.





IMPOSSIBLE INSTANT LAB

PRICE: \$299

AVAILABILITY: FEBRUARY 2013

THE BREAKDOWN: THIS KICKSTARTER SHOOTER BRINGS A BIT OF ANALOG TO A DIGITAL WORLD, BUT TAKING A POLAROID-STYLE PHOTO WITH A PHONE IS A DELICATE PROCESS.

The folks behind The Impossible Project bought a Polaroid factory to continue production on the famed instant film, and simultaneously launched a

Kickstarter to create an iPhone-friendly gadget to take advantage of it. The iPhone accessory is still in prototype mode, but we got a demo of the fully-functional unit — just load the film into the rollers on the bottom, extend the old timey accordion top, choose the proper settings in the company's iPhone app and place it in the holder. The lens inside the device picks up the light from the camera's screen. Once the process is finished, the phone's flash is triggered and the rollers spit out a photo. There are a lot of things that can go wrong in the process, but when everything goes right, you've got a perfect little Polaroid-style photo.





FUJIFILM X-E1

The star of Fujifilm's 2012 Photokina lineup has to be the X-E1. The X-Pro1's little sibling offers up most of the functionality of its bigger, pricier brother — save for its inclusion of just an electronic viewfinder — into a body that's roughly a third smaller. That said, this is hardly a compact mirrorless — the X-E1 still has a bit of girth and weight to it. Still, it feels nice in the hand and isn't likely to weigh down your shooting — particularly for those accustomed to using a larger DSLR. It's also worth pointing out that the retro-styled interchangeable lens camera is significantly cheaper, running you \$700 less than the X-Pro1.

PRICE: \$1,000

AVAILABILITY: NOVEMBER 2012

THE BREAKDOWN: THE X-E1 OFFERS MUCH OF THE FUNCTIONALITY OF THE BIGGER, PRICIER X-PRO1 FOR \$700 LESS.



**PRICE: \$2,099****AVAILABILITY:
DECEMBER 2012****THE BREAKDOWN:
THE CANON 6D IS
LIGHTER THAN ITS
PROFESSIONAL-
GRADE FAMILY
MEMBERS, WITH
A FULL-FRAME
SENSOR AND A
PRICE THAT WON'T
BREAK THE BANK.**

CANON 6D

Canon's consumer-friendly DSLR offers built-in WiFi, packs a 20.2-megapixel CMOS sensor, and is 20 percent lighter than the 5D Mark III. It features a sensitivity range of ISO 100 through 102,400, can shoot 4.5 fps stills and offers 1080/30p video capture. It also has an optical viewfinder, paired with a 3.2-inch, 1.04 million-dot LCD on the rear, which looks just as sharp as you might expect. What really blew us away, though, is the size and weight. It's more compact than the 5D and even the 7D, an APS-C camera, weighing in at 690 grams. Since it's lighter than the larger pro model, it boosts the 6D's versatility, and makes it an ideal choice for street and travel photography. We haven't had



a chance to shoot with the new high-end DSLR just yet, but it felt quite solid in hand, despite the more compact design and significant weight drop. **D**



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Chess and technology have been linked for far longer than the age of modern computers. As Dave McKenna notes in this piece for *Grantland*, it's a link that goes as far back as the 18th century, when Hungarian inventor Wolfgang von Kempelen created the mechanical chess-playing device known as "The Turk." Of course, the two also continue to be inextricably linked today and, as McKenna explains in some detail, that relationship is becoming an increasingly complicated one. Illustrating that is the recent case of rising chess star Clark Smiley, who



Rooked

By Dave McKenna
Grantland

was caught using a Dell PDA for cheating instead of scorekeeping (as it was allowed with a sanctioned app that cuts off all other access to the device). In addition to raising questions about whether Smiley (or another party) hacked the device or app, it's also raised broader questions about the use of technology as an aid instead of an opponent. Through it

all, McKenna provides a brief history of technology and chess, from the early supercomputers that couldn't yet beat humans, to earlier attempts at cheating involving concealed devices.

Elon Musk, the 21st Century Industrialist

By Ashlee Vance

Bloomberg Businessweek

Elon Musk has been garnering more headlines than usual this year, with his Tesla Motors rolling out its Model S sedan and his other big venture, SpaceX, making a bit of history by launching the Dragon spacecraft and docking it with the ISS. In this in-depth profile, Ashlee Vance looks at how Musk got to this point, what he's like to work for and just how ambitious his plans are for the future.

William Gibson: The Wired Interview

By Geeta Dayal

Wired

We've featured a few pieces by and about William Gibson on this page before, but we couldn't let that stop us from pointing you towards yet another one with this three-part interview in *Wired*. In it, Gibson discusses why science fiction writers are "almost always wrong," offers a few movie recommendations and shares his thoughts on everything from Twitter to the TED phenomenon to punk rock.

iPhone 5? Yawn. What Will the 'Phone' of 2022 Look Like?

By Alexis Madrigal

The Atlantic

This month's debut of the iPhone 5 prompted all the discussion and prognostications you'd expect from a new iPhone, but the author went a bit further than most with this piece. He decided to take a stab at looking 10 years into the future and predicting what the must-have gadget of 2022 will look like, examining the likes of Google Glass, Leap Motion and brain-computer interfaces in the process.



The Extremes of Technology Customer Service



EDITORIAL

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FORUM

How Common Sense and Empathy Create Unmatched Loyalty

BY DARREN MURPH

Allow me to explain how two discussions started off in very similar ways, and ended... shall we say, *differently*. This is me, attempting to muster any sort of pleasantness in my voice at some ungodly hour of the morning on a Google Voice connection from Dubai back to the US:

“Hey! I’m having to cut a trip short due to an emergency back home. I actually purchased a trip protection plan when I checked out online — would it be possible to provide a refund for this flight now that I need to cancel it?”

From here, I was told that this was too vague. That I would need medical proof of an injury or illness, and that if it were a pre-existing condition — something like reoccurring cancer — that simply wouldn’t do. Oh, and if it’s a home emergency, you’ll need proof from your home insurance company that your abode is “uninhabitable.”

“So... I’m basically hosed here? This trip protection plan doesn’t really pro-

tect very much, does it?”

“... Do you want to file the claim?”

“No. That’s okay. Thanks for your time.”

It doesn’t have to be this way.

The company I was referring to is Allianz Global Assistance. It’s the outfit that Orbitz partners with to provide a sham known as “Trip Protection.” The person on the other end of the line recited the absurd list of acceptable excuses without missing a beat, with nary a hint of empathy or any sign that they were — in fact — not a robot. Admittedly, the CSR was in a bad spot. Their job is essentially to answer pleas all day with “No.” I wonder how often they’re actually able to help someone. Judging by the numbers, not often — Allianz’s quarterly operating profit rose 2.8 percent year-over-year to 2.4 billion euros in Q2 2012. Think about that. This company raked in 2.4 billion euros. In three months. One has to wonder how much smaller that number would be if it spent more time saying “yes” to those who come calling in their time of need.

Allianz’s homepage on the web looks a lot like most other insurance web-



“I effectively emailed this company and asked them for money back — money that I didn’t deserve, and money that it had every right to keep.”

sites, and it doesn’t take much scanning to find this: “We’re here to help. In fact we’ve been helping people for nearly 60 years.” Something tells me the definition of “help” isn’t exactly set in stone.

You may wonder what this has to do with consumer technology, and moreover, you’re probably wondering why a dead horse is being beaten. After all, hasn’t insurance *always* been in the business of figuring out ways to sidestep their promises? Allow my second conversation to explain.

“Hey! I’m having to cut a trip short due to an emergency back home. I know I paid for 32 days of service up front, but is there any way you could deactivate the service 10 days early and provide a refund for the prorated amount?”

This time, it was via email — on a Saturday. Within two hours, I was staring at the following email reply:

“Thank you for contacting iPhoneTrip’s Customer Care Center.

Please be informed that your SIM card will be deactivated on (redacted).

Your invoice was recalculated and your credit card was refunded for the (prorated amount).

If you have any questions, please feel free to ask us.”

I was shocked. I literally sat and stared at my Gmail inbox and attempted to wrap my brain around the incredibly different handlings of two very similar situations. I, of course, wrote back and thanked the company for its graciousness and assured the support team that I’d be using them for all future travel overseas.

The real kicker is this: iPhoneTrip had no idea that I had purchased this SIM through the same channel as everyone else. This wasn’t an arranged “media review unit.” There was no special treatment, assumed or otherwise. This is simply how iPhoneTrip’s support team is taught to react to unfortunate requests such as mine. To reframe this, I effectively emailed this company and asked them for money back — money that I didn’t deserve, and money that it had every right to keep. But it chose to react with a level of mercy, dignity and courteousness that has become increasingly hard to find in companies of all stripes. And yes, even technology companies.

The status quo doesn’t have to be the way it is. The art of customer service is dying such a spectacular death that it takes only a slight bit of rule bending to lock a customer in for life. The point came up once more in a wide-



ranging interview I had with Ahmad Zahran, the founder of Infinitec. During the talk, I asked him what his forthcoming \$99 Pocket TV offered over \$55 alternatives that are widely available in Shenzhen, China (and by extension, the world). He made a point to emphasize the importance of customer service that you don't get when you just buy a slab of components in a cardboard box.

"Email us and see how quickly we respond," he said.

Continuing, in no uncertain terms: "Right now, it's incredibly frustrating that we've hit this unexplained wall with PayPal and we're unable to accept new pre-orders through it. The fact that this is causing a customer service issue on our end is a *huge* deal for us. But the difference is that PayPal could not care less about servicing us. We care about servicing our customers who are attempting to purchase through PayPal."

In fact, my recent experiences with customer service in the technology realm have reaffirmed one thing in particular: PayPal is perhaps *the* model for disservice in the space that I cover. I can only hope that those reading these words never have any run-ins with PayPal — even if you know you're right, and you've got the documentation to prove it, chances are you'll lose. It's a troubling, troubling thing. It extends beyond the realm of usability and consumer technology, hammering away at

"After a request for a partial withdrawal, the [PayPal] account flipped into "limited" access mode; shortly thereafter, it was frozen entirely."

the fabric of humanity that is so often thrown aside when service issues arise.

For those unaware, Infinitec — a Dubai-based technology startup that recently raised half a million dollars on Kickstarter to fund its Pocket TV — was accepting pre-orders through PayPal. As \$30,000 or so poured in, there was no sign of trouble anywhere. PayPal was more than happy to have the funds flowing in, enabling it to earn interest on every last penny as they sat idle in the account. Then, after a request for a partial withdrawal, the account flipped into a "limited" access mode; shortly thereafter, it was frozen entirely. No payments were being allowed in or out, and somehow — astonishingly — PayPal has the authority to do this.

It's not only sickening; it should concern you *greatly*. PayPal, for all intents and purposes, has an internet-wide monopoly on digital fund exchanging. There really aren't any globally accepted alternatives at the moment. And in March of 2012, according to *CNET*, the Federal Deposit Insurance Corporation said "it does not consider the company to be a bank



or savings association because it does not accept deposits as defined by federal law, which requires institutions to have a banking charter.”

In other words, the world’s largest online bank is allowed to parade around on its own terms, making up its own rules and freezing accounts for reasons it doesn’t have to disclose to anyone. Infinitec is still waiting for answers on why it cannot accept or remove funds, and has even gone so far as to inform PayPal that it would happily allow it to hold funds until it’s able to ship the Pocket TV — after all, one would think that this gesture would eliminate the assumed risk that PayPal is guarding itself against.

Infinitec isn’t alone. I myself am still owed \$1,500 from PayPal due to an eBay auction that went tragically wrong a few years back. A bidder paid via PayPal using fictitious digits, and rather than PayPal actually noticing, it happily added the funds to my account and assured me that I was cleared to ship the product. Upon trying to withdraw the funds, my account was frozen until PayPal could *deduct* the amount paid. I was left up a highly populated, oftentimes stank, creek sans a paddle, and judging

by the myriad forums and websites littered across the web, folks like myself and Infinitec aren’t alone.

But it’s not just atrociously obvious customer service failures that are killing spirits in the technology world — it’s the pervasiveness of nonchalance.

On May 18th, my wife applied to become a member of Nikon Professional Services. It’s something of an underground organization crafted by Nikon, enabling those who shoot for a living to be in elite company when needing rushed repairs and loaner items. It’s a brilliant thing, really. Best of all, it’s totally free to join — provided you own the necessary amount of kit, are a full-time photographer, *and* you know an existing NPS member that can vouch for you.

It is currently September of 2012, and she’s still not a member of NPS. In what can only be described as one of the world’s easiest processes to complete, Nikon has somehow bungled this to the point of hilarity. Four months later, and this company cannot adequately serve its most loyal customers. I’ve heard a smattering of excuses — mostly ones surrounding promises that it has sent an application to a sponsor that he has yet to receive. But at what point do the ex-

“The world’s largest online bank is allowed to parade around on its own terms, making up its own rules and freezing accounts for reasons it doesn’t have to disclose to anyone.”



cuses become more than excuses? At what point is it just obvious that a company couldn't care less about its customers? Or, perhaps, that it simply has not devoted the resources to establishing a service department to accomplish some of its most important goals.


I've lost all faith in Nikon as a service-oriented company. The only reason my wife and I can muster for continuing to stick with it is that our existing investments in equipment are too deep to abandon. Perhaps my story is an isolated one, but it's one too many. What good is a gadget without support? What good is technology without people to back it?

My advice to both startups and monoliths alike is simple: never lose focus on service in the race to win hearts and minds with raw horsepower. Don't brush empathy aside for the sake of crafting a superior user interface. Don't breed a culture of indifference — one that throws out “no” more frequently than “yes,” simply because it's expensive and mentally taxing to truly solve the problems of those who pay for your wares. PayPal is living proof that no amount of bad publicity from years of customer service atrocities can put a strong monopoly out of business, but companies like iPhoneTrip and Zappos — an online shoe company that offers gratis returns, exceedingly friendly CSRs and routine shipping upgrades — are proof that

“My advice to both startups and monoliths alike is simple: never lose focus on service in the race to win hearts and minds with raw horsepower.”

service can encourage loyalty, too.

It's also important to note that I'm not writing this after just a rough 2012. I've been making a point to perceive customer service interactions for years, and it's finally to the point where I simply cannot stand around and write nothing. The way I see it, customer service is falling by the wayside. You can look at research surveys all you want, but largely, they're impossible to trust. Who says they're surveying 1,000 people who've been wronged? Do people really tell the truth when asked to say something negative about someone?

The answer can't always be “yes.” And I'm not arguing that fine print isn't *technically* the final word. But hawking technology to the masses with a frail support system is a highly toxic thing, and in a world where far too many curveballs are thrown, we should at least expect our consumer-focused companies to care about us beyond the initial purchase. 



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HP Envy
Spectre XT



Motorola Droid
RAZR M



iPhone 5



HP ENVY SPECTRE XT



HP's **Spectre XT** is new and improved, but will middling battery performance keep this Envy from being your next new machine?
By Sarah Silbert

HP's Envy 14 Spectre hit *almost* all the right notes when we reviewed it back in March, thanks to its high-res display, sleek metal-and-glass design and brisk performance, but a stiff trackpad and the steep \$1,400 price were clear downsides. The new Envy Spectre XT, a 13.3-inch Ivy Bridge-powered Ultrabook, has a thinner, lighter profile than its big brother, and a lower \$1,000 price tag to match. That's still not chump change, though, so does the XT deserve a spot in the top tier of Intel-approved ultraportables? Let's find out.



The Spectre XT has the trappings of a higher-end Ultrabook, including an all-metal design with a brushed silver finish on the lid and keyboard deck. HP carried over some familiar elements from its fuller-bodied Envy 14 Spectre, which weighs 3.97 pounds, compared to 3.07 for the XT. However, this model's aluminum lid is decidedly more elegant than the original Spectre's glossy black top. You'll find the same backlit chiclet keyboard, a reflective (rather than glowing) logo on the lid and the Hewlett-Packard name brandished across the hinge. Additionally, Beats Audio branding sits prominently on the laptop's speaker grille, with the red logo standing out amid all that silver.

All told, the Envy Spectre XT feels quite good in the hand. The rounded corners are eminently grippable and the soft-touch bottom is delightfully smooth, but not too slippery. The whole

The Spectre XT cuts a sleek and semi-tapered silhouette.



package feels sturdy, too, though the screen is a bit wobbly. The machine tapers slightly, from 0.69 inches to 0.57 inches thick, which manages to give it a sleek feel even though its silhouette isn't as pointed as the MacBook Air (0.86 to 0.11 inches thick) or as skinny as the 0.3-inch ASUS Zenbook Prime UX31A or 0.5-inch Samsung Series 9.

HP outfitted the XT with a no-surprises selection of ports: two USB 3.0 connections, an SD card slot, combination headphone-out / microphone-in jack, Ethernet and HDMI. There's no DisplayPort as on the Envy 14 Spectre, and you can naturally forget about an optical drive.

KEYBOARD AND TRACKPAD

The Envy Spectre XT's black, island-style keyboard offers decently sized keys that respond to input with a satisfying *clack*. You'll enjoy much more travel on this layout than on many other Ultrabooks, which seem to be plagued with shallow keyboards. In everyday use, we made very few spelling mistakes, and didn't notice much, if any, flex. Like the Envy 14 Spectre and HP Folio 13, the XT sports a backlit keyboard, with a separate LED under each key. The layout is pretty much identical to what you'll find on the original Spectre, with shrunken arrow keys standing out as the only undersized elements.

While keyboard quality remains consistent between the XT and its older brother, the trackpad on this thinner



The touchpad feels much more fine-tuned than what we've seen on previous HP systems.

system is a welcome improvement. The Synaptics clickpad did right by us, allowing for smooth two-finger scrolling without resistance or any noticeable lag. Pinching to zoom is also easy to execute, and the pad wasn't overly sensitive in performing this gesture, a problem we found on the original Spectre. The built-in buttons, too, are accurate and responsive. Overall, the touchpad feels much more fine-tuned than what we've seen on previous HP systems, and that's definitely something to write home about. One carryover from the company's previous laptops is the trackpad-disabling feature, which lets you disable the clicker by double-tapping an icon on the pad's upper-left corner. You'll see a glowing orange LED when the pad is turned off.

DISPLAY AND AUDIO

The Spectre XT's 1,366 x 768 display isn't exceptionally crisp and clear, but colors appear plenty vibrant. As to be expected with a glossy, non-IPS screen, viewing angles are limited. Images begin to wash out when you move even a smidgen to the left or right of center, and tip-

ping the lid a bit forward renders content on the display unviewable. That's not to say this is the most glare-ridden panel we've contended with, but it makes us appreciate the Envy 14 Spectre's screen all the more. In a perfect world, HP would carry over that pixel count without raising the price, but that's not going to happen any time soon.

Beats Audio is a given on most HP machines and that usually means a better listening experience than what you'll get on your average laptop. That said, we aren't blown away with the sound quality on the Spectre XT. Though the machine offers ample volume, songs come through tinny and canned. We can't knock HP too hard for this: beefier machines such as the Envy 15 have room for a subwoofer, and that's just not a possibility on this Ultrabook. Two of the XT's speakers are placed on the underside of the machine, which might explain the muffled audio. (There are also speakers on the front grille.) With headphones plugged

Beats Audio is on-board, but this slim Spectre lacks a bass punch.



in, you'll get the Beats benefit; music sounds richer, and there's a satisfying amount of bass.

PERFORMANCE

A Core i5 Ivy Bridge processor, 4GB of RAM and a 128GB SSD hint at a high-performing Ultrabook, and the Spectre XT does pretty darn well in synthetic benchmark tests. In PCMark Vantage,

the system notched a score of 12,223, which bests the Envy 14 Spectre by nearly 3,000 points. Among Ivy Bridge Ultrabooks, too, that's a solid showing. The ASUS Zenbook Prime UX31A and the Acer Aspire S5 are in the same ballpark, with scores of 12,494 and 12,895, respectively. In the disk benchmark ATTO, the XT delivered max read speeds of 520 MB/s, while writes

LAPTOP	PCMARK VANTAGE	3DMARK06
HP ENVY SPECTRE XT (1.7GHZ CORE I5-3317U, INTEL HD GRAPHICS 4000)	12,223	5,197
APPLE MACBOOK AIR (2012, 1.8GHZ CORE I5, INTEL HD GRAPHICS 4000)	13,469	5,827
ACER ASPIRE S5 (1.9GHZ CORE I7-3517U, INTEL HD GRAPHICS 4000)	12,895	5,071
ASUS ZENBOOK PRIME UX31A (1.7GHZ CORE I5-3317U, INTEL HD GRAPHICS 4000)	12,494	4,989
ASUS ZENBOOK UX31 (1.7GHZ CORE I5-2557M, INTEL HD GRAPHICS 3000)	10,508	4,209
ASUS ZENBOOK PRIME UX21A	10,333	4,550
13-INCH, 2011 MACBOOK AIR (1.7GHZ CORE I5-2557M, INTEL HD GRAPHICS 3000)	9,484	4,223
LENOVO IDEAPAD U300S (1.8GHZ CORE I7-2677M, INTEL HD GRAPHICS 3000)	9,939	3,651
SAMSUNG SERIES 9 (13-INCH, 2012, 1.7GHZ INTEL CORE I5-3317U, INTEL HD GRAPHICS 4000)	8,624	5,155
2011 SAMSUNG SERIES 9 (1.7GHZ CORE I5-2537M, INTEL HD GRAPHICS 3000)	7,582	2,240
HP FOLIO 13 (1.6GHZ CORE I5-2467M, INTEL HD GRAPHICS 3000)	6,701	3,387
TOSHIBA PORTEGE Z835 (1.4GHZ CORE I3-2367M, INTEL HD GRAPHICS 3000)	5,894	3,601
ACER ASPIRE S3 (1.6GHZ CORE I5-2467M, INTEL HD GRAPHICS 3000)	5,367	3,221

NOTE: HIGHER SCORES ARE BETTER



topped off at 265 MB/s. Those numbers are impressive — about on par with the Samsung Series 9's performance, though both fall short of the Aspire S5's mind-blowing 875 MB/s reads and 700 MB/s writes.

Champ performer though this system may be, it's an Ultrabook with Intel HD Graphics 4000, and there's only so much you can do without a discrete chip. Still, the Spectre XT fares considerably better than its competitors in 3DMark06, knocking out a score of 5,197. That trumps the UX31A (4,989), pulls in well ahead of the Envy 14 Spectre (3,468) and falls 630 points short of the MacBook Air (5,827).

Suffice to say, those strong benchmark showings translate into swift real-world performance. Cold-booting into Windows 7 Home Professional takes a breezy 16 seconds, and waking from sleep takes about three. Not only do those times feel refreshingly speedy, they hold their own against top-performing Ultrabooks, such as the MacBook Air (15 seconds) and the Sandy Bridge-equipped ASUS UX31 (16 seconds).

The Spectre XT can satisfy a casual gaming habit, but firing up graphically intensive titles like *Call of Duty* will push this guy to the limits. We saw a modest 20 frames per second in this game, and the fan started acting up merely minutes into our fragging. In *World of Warcraft*, the frame rate hovered around a playable 60 fps. Here too, though, the fan began to whir and we felt the XT getting a bit toasty.

BATTERY LIFE

The XT's four-cell lithium-ion battery lasted four hours and 57 minutes on our video rundown test, which involves playing a locally stored video on loop with WiFi on and display brightness set

LAPTOP	BATTERY LIFE
HP ENVY SPECTRE XT	4:57
SAMSUNG SERIES 9 (15-INCH, 2012)	7:29
LENOVO THINKPAD X230	7:19
SAMSUNG SERIES 9 (13-INCH, 2012)	7:02
MACBOOK AIR (13-INCH, 2012)	6:34 (OS X) / 4:28 (WINDOWS)
HP FOLIO 13	6:08
ASUS ZENBOOK UX31A	6:05
HP ENVY SLEEKBOOK 6Z	5:51
TOSHIBA PORTEGE Z835	5:49
ASUS ZENBOOK UX31E (2011)	5:41
SONY VAIO T13	5:39
MACBOOK AIR (13-INCH, 2011)	5:32 (OS X) / 4:12 (WINDOWS)
HP ENVY 14 SPECTRE	5:30
TOSHIBA SATELLITE U845W	5:13
ACER ASPIRE TIMELINE ULTRA M3	5:11
LENOVO IDEAPAD U300S	5:08



to 65 percent. That runtime falls a bit short of average for the Ultrabook category, and it's 33 minutes less than the Envy 14 Spectre's showing. The earlier HP Folio also lasted longer: six hours and eight minutes. Needless to say, it's one of the biggest reasons you might consider a competing Ultrabook instead.

SOFTWARE AND WARRANTY

HP continues its tradition of generous (and actually useful!) software pre-loads with the Envy Spectre XT. The company includes full versions of Adobe Photoshop Elements and Premiere Elements, plus a complimentary two-year subscription to Norton Internet Security 2012. Lest you think HP is a complete angel, though, you'll still find a healthy serving of bloatware. Pre-installed programs include CyberLink YouCam, a suite of card and casino-style games. There's also HP's selection of utilities, including Support Assistant and Recovery Manager, which make themselves a little too known through pop-ups. (One word: disable.)

Like other Envy laptops, the XT comes with a two-year limited hardware warranty. Support includes 24 / 7 phone support and parts and labor coverage. Nothing shocking here, but HP does compare favorably to other PC vendors in this department. Dell and Toshiba, for instance, offer only one



Keeping it elegant and simple with a brushed silver top.

year of coverage, and extending warranties can cost up to nearly \$199.

CONFIGURATION OPTIONS AND THE COMPETITION

Our review unit is the \$1,000 entry-level configuration, with a 1.7GHz Core i5-3317U processor, Intel HD Graphics 4000, 4GB of RAM and a 128GB SSD. For \$1,125, you get a Core i7-3517U CPU, and an extra \$125 gets you the highest-end processor option, a Core i7-3667U. The maxed-out version of the XT, with the faster Core i7 CPU, 256GB of SSD storage and the full version of Microsoft Office Professional, will set you back \$1,759. Without the software add-on, you're looking at a \$1,450 price tag for those specs. Notably, there's no option to configure the system with additional RAM.

Assuming you want to stay in the XT's price range, you'll find a couple 13- to 14-inch Ultrabooks with similar



Short battery life and weak audio dampen our enthusiasm slightly, but ultimately the XT is one of the best Ultrabooks available right now.

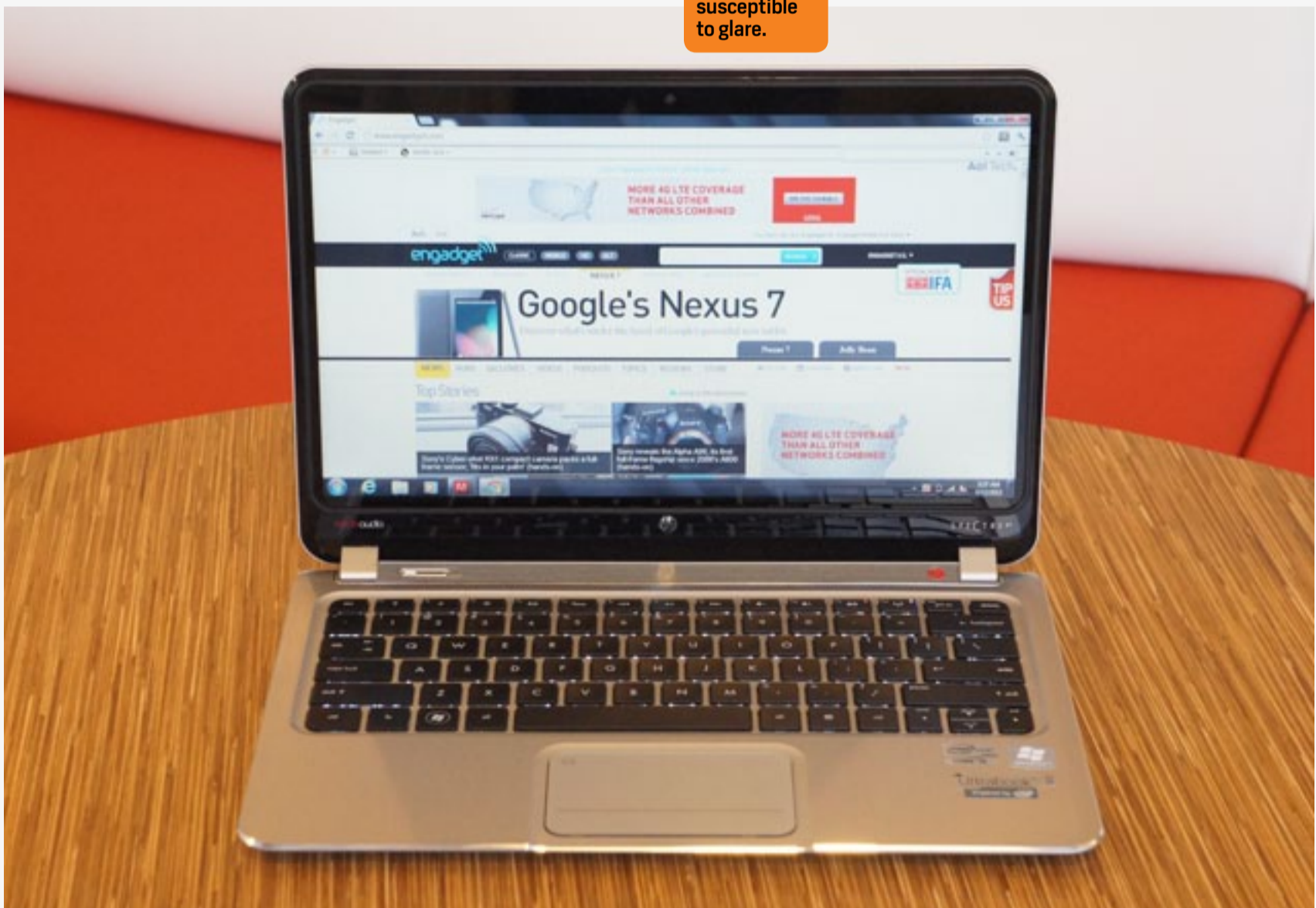
features under the hood. One such option is the Toshiba Portégé Z935, an Ivy Bridge refresh of the Z835 with a Core i5 CPU, 6GB of RAM, a 128GB SSD and a backlit keyboard. Looks-wise, the plain-Jane Portégé can't hold a candle to the XT, but it does weigh a lighter 2.47 pounds.

If high pixel density is on your list of priorities, the \$1,069 ASUS Zenbook Prime UX31A, with its brilliant

1,920 x 1,080 IPS display, could make a strong case for your money. It weighs 2.86 pounds, boasts an attractive all-metal design and turns in solid benchmark scores, and its other specs stack up with the XT's: a Core i7 CPU, 4GB of RAM and a 128GB SSD. The downside is a finicky touchpad — HP's machine is clearly superior in that regard.

And if you're curious why the \$1,400 Envy

The screen is crisp and bright, but susceptible to glare.



14 Spectre warrants a \$400 premium over the XT, well, it doesn't, necessarily. Yes, this machine stands out for its scratch-resistant Gorilla Glass lid and 14-inch 1,600 x 900 display, but a higher-res screen can be had for a lower price. Other specs match up closely with the XT's, including Core i5 and i7 processor options and up to a 256GB SSD, but its clickpad is decidedly inferior.

Finally, we'll briefly touch on a yet-to-be-released option that could give those of you interested in the XT pause. HP recently announced the Spectre XT TouchSmart, a 15-inch version of the Ultrabook reviewed here which boasts a touchscreen — and a 1080p IPS panel at that. Naturally, the TouchSmart will run Windows 8, and it weighs a more substantial 4.77 pounds. The MSRP is also a costlier \$1,400, though that's hardly a surprise given the premium features.

WRAP-UP

The Envy Spectre XT is a good Ultrabook on its own, and an even better one when you consider how HP improved upon the already-appealing Envy 14 Spectre. A refined, responsive touchpad, even brisker performance and a more palatable price make this a prime contender for the contents of your wallet. Unimpressive battery life and weak audio dampen our enthusiasm slightly, but ultimately the XT is one of the best Ultrabooks available right now. If you want a touch-enabled, higher-res display — and your pockets run deep enough — you may want to wait it out for the XT TouchSmart, but among 13-inchers, this system gets our stamp of approval. **D**

Sarah is Reviews Editor, a wannabe tap dancer and a closet film critic.

BOTTOMLINE

HP ENVY SPECTRE XT

\$1,000+



PROS

- Attractive, well-built design
- Very solid performance
- Comfortable keyboard and touchpad
- Two-year warranty

CONS

- Short battery life
- Unimpressive audio

BOTTOMLINE

The HP Envy Spectre XT is a solid contender, with a comfortable keyboard and touchpad, an attractive design and top-notch performance. The one downside is less-than-stellar battery life.



MOTOROLA DROID RAZR M



It occupies the budget branch of the RAZR family tree, but is Motorola's **Droid RAZR M** positioned to please the mobile masses?
By Joseph Volpe

Family trees are monstrous wonders of genetic distillation, alternately yielding grotesque and delightful offspring. And, as is nature's wont, it's within the strongest of these "carriers" that dominant traits are passed on, ensuring a continued legacy for a specific branch marked by beauty, brains or beastliness. And so the same rings true for the RAZR lineage: a once forgotten, but now revived brand that's helping to define the *new* Motorola (as experienced through Verizon). Tucked safely under the protective wing of Google's guardianship, the



manufacturer's embarking on a wireless renaissance and soldering that second chance at relevance to the Kevlar back of its latest Droid progeny. But as with all litters, there's bound to be one runt and here that distinction belongs to the Droid RAZR M.

Known internally as the Scorpion Mini, this ICS handset's barebones build can deceive the eye into believing it's smaller than it actually is. But really, its screen is the same 4.3-inch, qHD, Super AMOLED Advanced affair as that of the original RAZR reboot — just without the considerable bezel. So Moto's engineers have trimmed some fat, but this cosmetic overhaul also goes below the surface. Keeping it fairly current is a gently skinned version of Ice Cream Sandwich (soon to be upgraded to Jelly Bean) that's powered by a souped-up 1.5GHz dual-core Snapdragon S4 and 1GB RAM. And really, that's about as modern as the RAZR M gets. Put down on paper, that mild spec bump might not seem compelling enough, but let us tantalize you with the device's most attractive tidbit: \$99 on-contract pricing. Yes, folks, this formidable Droid RAZR redux has a retail positioning ace up its sleeve, but does that alone warrant two years of Verizon's chains? Can a slimmer form factor, unchanged display and faster processor lure in the style-conscious on a budget?

Or are you better off holding out for its bigger bodied (and batteried) Droid RAZR HD siblings? Stick with us as we pass judgment on Moto's little leaguer.

HARDWARE

Even as of this writing, we're still torn on the RAZR M's fit and finish. Does it offend with extravagant styling? Nope. Does it entice with a striking design? That's another no. On the whole, the device is best categorized as inoffensive — it's imbued with a blandness that's neither edgy, nor soft and curvy.



The RAZR M's bland design is best described as "inoffensive."



Motorola's achieved a design that could very well wind up in your Grandma's hands, or even your hipster younger brother's. It's just not that divisive and, well, therein lies the RAZR M's obvious marketing charm.

Seen from the front, the RAZR M presents an expanse of Gorilla Glass ringed by an aluminum frame. Flanking the screen are Motorola's logo up top and Verizon's branding on the bottom. Save for a tapered chin, it's an altogether simple face, uncluttered and nondescript. Only in its white iteration does the phone convey a sense of personality. In black, it's anonymous and indistinct; a no-frills phone for the non-fussy.

Ports and hardware keys are placed about the M's four edges with a clear rhyme and reason. Along the right side, you'll find a very solid-feeling power button and volume rocker, both of which have just enough texture so as to make them easy to find by feel. On the opposite edge is the micro-USB port — along with micro-SIM and microSD slots, both covered by a flimsy strip of protective plastic. Flip the phone around and you'll find the most striking evidence of the phone's RAZR lineage: a smooth, Kevlar-coated back. As you'd expect, it's similar to the backing on the new RAZR HD and RAZR Maxx HD. This time, though, the Kevlar doesn't take up the whole back side; presiding over that patterned mesh is an 8-megapixel shooter capable of 1080p video capture.

Power on the display and you'll immediately be greeted by the deep blacks, high contrast and rich saturation common with Super AMOLED Advanced panels. But don't get too close to the screen otherwise the RAZR M's glaring flaw will come to light. And, if you're anything like us, it won't be easy to un-see. Yes, just like with the original Droid RAZR, this mini-me version incorporates a PenTile display that renders all onscreen objects with jagged edges. While its inclusion likely kept production costs down, it's the one area that really holds the M back from being truly great. If you can live with that

Motorola is offering a no-frills design on the Gorilla Glass face.



slight pixelation, then feel free to gloss over this section. This is a \$99 phone, after all, and unlike similarly priced handsets with 800 x 480 resolutions, the M at least steps up to qHD. Further distracting us from that minor display misstep are some surprisingly excellent viewing angles, which help make the screen immune to glare. We tested the M outside in broad daylight and had no problem making out the screen.

PERFORMANCE AND BATTERY LIFE

Nowadays, most LTE handsets in the US pack a Snapdragon S4 chip. To give you a fair idea of how the RAZR M stacks up, we pitted it against rivals with that exact dual-core CPU inside. But to keep this benchmark fight fair, we also made sure to select devices with a similar 4.3-inch screen size and qHD resolution: Motorola's Photon Q and HTC's Droid Incredible 4G LTE. Of the two, only Sprint's Photon Q is clocked on par with the M, which might explain its

near-identical Quadrant score. The only other area where Moto's mini RAZR fell short was SunSpider, where its native Chrome browser ranked last in performance. Still, that doesn't mean it's sluggish: after all, the M otherwise made a clean sweep of its rivals, with a very slight victory in the graphics department.

Need a daily driver that's going to get you through the day and then some? Well, please meet the Droid RAZR M. And what a delight it is to finally test a compact phone that doesn't skimp on specs, but still manages to last through more than 24 hours of real-world use — and that's with some heavy use of the browser, Gmail app and Twitter, mind you. It's a truly impressive feat made possible by the handset's non-removable 2,000mAh battery. Put through the rigors of our standard rundown test, which entails looping a video, the M notched exactly eight hours of life — and that's with WiFi and GPS enabled,

BENCHMARK	MOTOROLA DROID RAZR M	HTC DROID INCREDIBLE 4G LTE	MOTOROLA PHOTON Q
QUADRANT	4,944	4,247	4,947
VELLAMO	2,442	2,045	2,336
SUNSPIDER 0.9.1 (MS)	1,951	1,871	1,330
ANTUTU	6,364	6,001	6,134
GLBENCHMARK EGYPT OFFSCREEN (FPS)	56	56	55
CF-BENCH	9,392	7,778	9,034

SUNSPIDER: LOWER SCORES ARE BETTER



Twitter set to sync every 15 minutes and one push email account active. If you're sick of carrying around a spare battery and accompanying charger cable to keep your smartphone alive, you should consider this relatively petite offering to be your new daily driver.

We know smartphones don't equate much with voice service anymore, but enough of you use these devices to reach out and touch someone. And for that reason alone, we'll touch upon the RAZR M's call quality merits. In truth, that feature does seem an afterthought as nearly every caller we engaged came across with a tinny, compressed voice. It's serviceable and call volume is adequate, but by no means does the handset excel in this area.

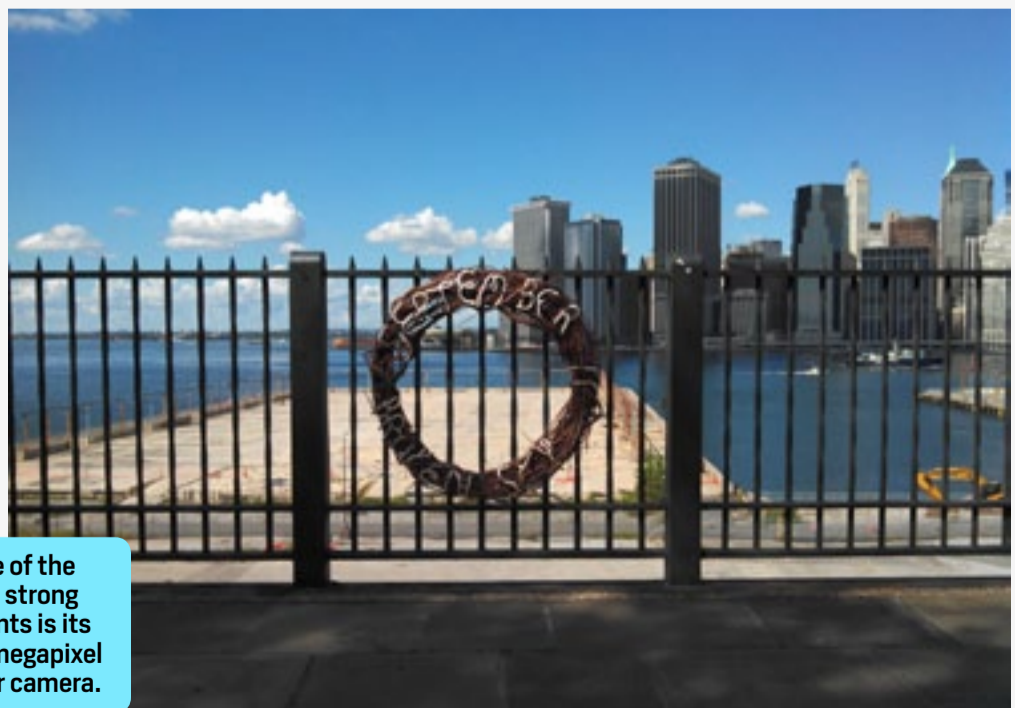
As for the LTE waves the M's surfing along, well not much has changed there. Verizon's 4G service is pretty well-entrenched at this point in time and speeds have stabilized for the most part despite growing network congestion. Overall, we averaged 25 Mbps down / 16 Mbps up with uplink maxing out at 26 Mbps while downlink performance topped out at 17 Mbps.

CAMERA

Social media types prone to photo oversharing will find much to love about the Droid RAZR M's rear 8-megapixel module. Truly, compared to most of the

cameraphones we've tested, the M's sensor and native imaging software do a remarkably fine job together — so fine, in fact, that you'll be hard-pressed to stop taking shots. Autofocus is handled exceptionally well and only occasionally did we find ourselves tapping onscreen to adjust it. What's more, the camera UI will actually prompt you to switch to HDR mode in low-light settings. Sure, this lends itself to some oversaturated, slightly unnatural images, but there is something to be said for capturing stills you wouldn't otherwise be able to attain. We collected a wide array of photos using plain Auto mode, Panorama, Portrait and even Burst Shot, and the results overwhelmingly please. Colors are vibrant, detail is crisp and the depth of field is impressive whether you're taking macro or landscape shots. Even when fully zoomed in, the resulting images were mostly clear, showcasing a tolerable level of noise.

You know what's also lacking noise?



One of the M's strong points is its 8-megapixel rear camera.



1080p video captured with the M, that's what. When we shot our sample video, we were in the midst of the morning rush here in New York City and, amazingly, you can barely hear the sound of traffic rumbling by in the background. Too bad we're only talking about the audio quality. Video is a much different story, lacking any of the grace, sharpness and clarity of its still photo counterpart. Further compounding the grainy playback is a dearth of image stabilization, which riddles our short clip with noticeable jitters.

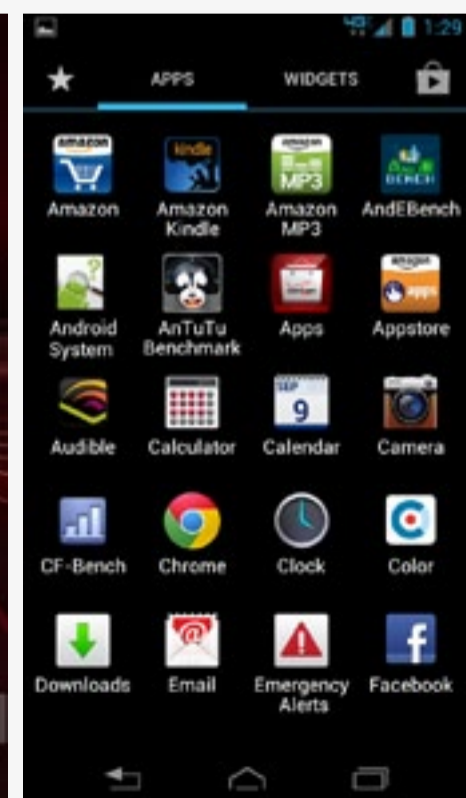
SOFTWARE

When Google scooped up Motorola, some industry observers hoped the acquisition would signal the end of skinned Android on Moto handsets. That hasn't happened, but the company is moving forward with a considerably lighter touch. Nightmares of its messy and heavy-handed Blur UX are long gone, replaced by a clean font and some subtle but useful home screen customizations. Let's address that last bit first: swipe to the right from the main screen and instead of cycling through a parade of widget- and app-cluttered screens, you instead get a quick settings menu. It's a welcome surprise the first time you encounter it, but it also takes some getting used to as you'll likely reach for the top down

menu to access a shortcut for those very same menu options. The other major change Moto's made to Ice Cream Sandwich is the pane manager (accessible by swiping left), which allows the user to set themed templates replete with associated widgets and applications (e.g., Amazon, Media or Mobile Office). If you're not in the mood to



While still present, Moto's ICS skin is scaled back here.



muck up your simplified home screen, well, there's nothing to worry about. Simply leave it all be and enjoy the third-party silence.

At the latest Droid RAZR family launch event, Motorola let the journalists in attendance demo units running Jelly Bean. It was an unfair tease. Stepped down to ICS, the user experience is understandably not quite as 60fps-smooth, as it lacks the buttered-up finesse that makes navigation on Android 4.1 a joy, but even still, the M never stutters, lags or freezes up. No matter, though, because the company's promised an upgrade should be forthcoming very soon — heck, we saw it ourselves in person, so we're inclined to believe it'll be ready shortly.

Beyond all of that, the RAZR M pretty much runs standard-fare Android 4.0.4, and it mostly looks and feels the same way it would on a Nexus. Inside the app drawer, though, you'll find one exception: Verizon's crammed in about 18 third-party apps, none of which are uninstallable. These include Color, Facebook and NFL Mobile, to name a few. Yes, you can disable the bloat and remove it from your app drawer, but make no mistake; they're still there, hiding in the background, sucking up memory. The RAZR M's software suite also marks the bow of Amazon's own pre-installed app suite (IMDB, App-store, Audible, Kindle, etc.), which co-exists alongside the typical GApps.

Management of the M's 8GB of

built-in storage is finicky since the device employs MTP for media transfer. This would normally be all well and good if it functioned as effortlessly as most other recent devices that have moved in this direction, but it doesn't. When you first plug the handset into your computer, a prompt will appear asking you to install Motorola Device Manager. The setup is simple, if you can get through it. We say this because the program failed to successfully install on one of our two test machines, despite our repeated efforts at troubleshooting. Once you overcome that hurdle, however, a window will pop up displaying the contents of your phone.

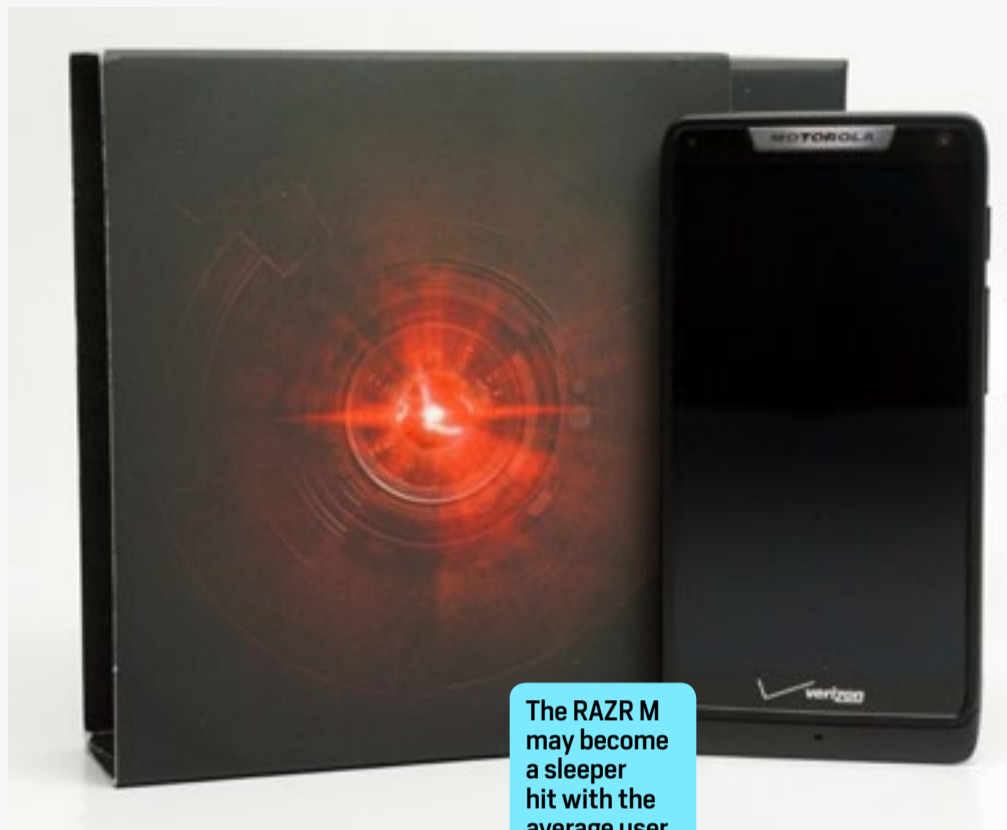
WRAP-UP

The Droid RAZR M may not have come as a fresh surprise when it was officially announced, nor was it the wholly original product fruit many would've initially wanted the new Moto to bear, but it seems that's entirely intentional. MotoGoog isn't attempting a mobile revolution with the M. After all, this 4.3-incher is merely a refresh of a recent refresh, the Droid RAZR, with a qHD resolution, dual-core S4, 2,000mAh battery and 8-megapixel rear camera. Instead, the companies have set their sights on creating a super-dependable smartphone for the everyperson — one that's inoffensive in its design, pared down for comfort and easy to use on the software front.

Though the M didn't initially get the



tech industry's blood pumping, this unassuming and well-crafted phone could prove to be the salve for many frustrated or casual smartphone users accustomed to confusing skins. Motorola's dusting of a UX positions the handset in near-Nexus territory — and it should only get better from here on out. With Jelly Bean already on display for nosy journalists, a promise for speedy updates publicly made, a make-good trade-in program for non-upgradeable devices announced and the consistency of its day-to-day performance plus that killer battery life verified, we're finding a hard time arguing against the M as Big Red's budget device to beat. For \$99 on contract you *could* easily snare the older and very vanilla Galaxy Nexus, but if that's your bag, it's best to hold out for the next



flagship to hit later this winter. No, the Droid RAZR M isn't for the hardcore, but it is well-suited to the wise wireless customer. Which is why Verizon might wind up with a mega-sleeper hit on its hands. **D**

Joseph Volpe is ambiguously ethnic. He is also an Associate Editor at Engadget.

BOTTOMLINE

**MOTOROLA
DROID RAZR M****\$99****(ON CONTRACT)****PROS**

- Snappy dual-core S4 processor
- Lightly skinned Ice Cream Sandwich
- Exceptional camera performance
- Long-lasting battery
- Comfortable in-hand fit

CONS

- PenTile display shows some jagged edges

BOTTOMLINE

Motorola's Droid RAZR M is a refresh of the best kind, packing S4 power, consistent performance and considerable battery life into an aggressively priced handset.



DISTRO
09.21.12

REVIEW

iPHONE 5



The year's most anticipated phone is finally here, but is the iPhone 5 really Apple's best?
By [Tim Stevens](#)



Thinner. Lighter. Faster. Simpler. The moment the iPhone 5 was unveiled we knew that it was checking off all the right boxes, folding in all the improvements and refinements people have been demanding over the past year — yet plenty of folks still went to their respective social networks to type out their bitter disappointment. iPhone upgrade ennui seemed to be sweeping the nation, a sentiment that appeared to quickly dissipate when it came time for people to vote with their wallets.

The iPhone 5 is here and it's every bit the device that people were asking for when the iPhone 4S came out. Its new design has less mass yet leaves room for a larger display and LTE wireless, all while increasing battery life. In nearly every respect, this is an upgrade over the 4S that came before, though it arrives almost a year later than many had hoped. Is it too late to keep pace with the rapidly iterating Android offerings, or is it so good it was worth waiting for?

HARDWARE

Apple introduced the iPhone 5 to the world by elevating it from a hidden pylon, rising from the floor and literally sitting

on a pedestal for the world to admire while precisely focused lights made the thing gleam like a jewel. Clearly, the company is confident that it's knocked it out of the park again, and we have to agree. But, that new design isn't perfect — not quite a grand slam, if you'll allow us to continue the metaphor.

The iPhone 5 is a clear evolution of the stark, industrial design introduced two years ago with the iPhone 4. That collection of square edges and raw materials was a huge contrast to everything else the company was producing and, frankly, everything else on the market. It was like an artifact from another dimension where ergonomics lost out to purity of vision, and Apple saw no reason to compromise that purity for the 4S nor, as it turns out, for the 5.

Visually, much has stayed the same, but the biggest change is impossible to see. Pick up the iPhone 5 and you're immediately struck by the reduction in weight. At 112 grams it's 20 percent lighter than the 4S, a figure that doesn't seem like it would make much of an impact. It does — so much so that it's the lightness, not the bigger display or the thinness, that nearly everybody praises when first getting a chance to

Clearly, the company is confident that it's knocked it out of the park again when it comes to the design of the latest iPhone, and we have to agree.



hold the iPhone 5 in their own hands.

Meanwhile, the changes in dimensions are surprisingly difficult to detect. That's largely thanks to the iPhone 5 being exactly as wide as the 4 and 4S that came before. This continuity of proportions on the x-axis brings familiarity, while a slight increase on the y-axis adds functionality. The iPhone 5 measures 4.87 x 2.31 x 0.3 inches (124 x 59 x 7.6mm), making it about a third of an inch (nearly 1cm) taller than before. Since all the extra room happens outside of your grip you hardly notice it, and this also shifts the phone's center of mass away from the center of your hand, which we think helps augment the perception of lightness.

The new height makes room for that 4-inch, 1,136 x 640 display — the most progressive change by a long shot. Steve Jobs famously said that the 3.5-inch screen size is the “sweet spot” and, frankly, it was about time Apple added a little more sugar. The new height results in a phone with more usable space and better presentation for HD content (the iPhone is finally 16:9). Yet, it's still easy to use with one hand. Each corner is comfortably reachable by thumbs of nearly all sizes.

That reachability is also helped by the decrease in thickness: 7.6mm, down from 9.3mm on the iPhone 4S. It isn't the world's thinnest smartphone that Apple claimed it was (the original Droid RAZR is thinner, among others), but this is still an impressively svelte device.

Visually much has stayed the same, but the biggest change is impossible to see.

An all-new aluminum construction extends around the back, which is either anodized black or left raw depending on whether you opt for the darker or lighter of the two offerings. The white phone is bright and clean-looking; the black, dark and menacing. We'll let you draw conclusions about personality based on color preference, but we

Apple's ditched the glass back for a bit of aluminum.



The phone's speakers are also positioned on the bottom, playing out through a series of 26 holes that flank another major change in the iPhone 5: the Lightning connector.

will say that the black surface seems to suck up fingerprints that are difficult to clean. Even so, we're glad the all-glass back has been retired, though traces of it remain: two slivers of the stuff punctuate the top and bottom of the back sides. These glossy bands break up the matte uniformity, but help boost antenna performance.

That said, the antennas still comprise the rim of the device, thinner now and the gap between them filled with a material whose color matches the body — yet more evidence of the design team's attention to detail. These are the same sort of dynamically reconfiguring antennas used on the 4S and, as with that phone, we weren't able to death grip our way into any sort of signal issues.

The face of the device is still fashioned out of glass (no surprise there) and while Apple wouldn't confirm whether that front is indeed the sort of primate-proof silica produced by Corning, we'd hazard a guess that it is. With the metal back now sitting flush to the chamfered edge of the device, the slightly elevated glass surface gives the profile view of the phone a bit of unfortunate asymmetry — it's now thicker on top than on the bottom.

But that elevated glass does mean your finger doesn't hit any rough edges or unfortunate surfaces when tracing the edges of the panel. The front-facing FaceTime HD camera now sits centered, directly above the earpiece. The Home button, meanwhile, has moved a fraction of a millimeter down and its resistance feels slightly different than that on the 4S, a touch more progressive with a more definitive detent. Hopefully the internal mechanism will prove more durable over time.

The position and design of the other buttons is likewise largely unchanged from the 4S, with the discrete, circular volume up and down buttons on the left just below the (slightly thinner) toggle switch. The headphone jack now moves to the bottom, a change that will cause some to modify their well-established pocket-retrieval mannerisms. But, as users of the iPod touch will tell you, having that jack on the bottom feels quite natural, and we agree. This is a good move.

LIGHTNING

Goodbye, venerable Dock connector. Hello, Lightning. For nearly 10 years the 30-pin Dock connector has been





Goodbye,
30-pin
connector.
Hello,
Lightning.



ubiquitous, sprouting out of accessories small and large, but ever since iPods started getting thinner we all knew its days were numbered. The giant, clunky connector is a painful legacy of an earlier time that needs to be removed from the ecosystem and, with the iPhone 5,

Superficially, it hits all the right marks, but Lightning comes up short in a number of important areas.

Apple decided it was time to rip off the Band-Aid. Indeed the Dock connector must go and we won't miss it, but Lightning doesn't always feel like a confident step forward.

First, the good: the Lightning connector is infinitely easier to connect. It slots in nicely and does so regardless of orientation, plugging in right-side-up or upside-down. We were able to drive it home without looking the first time, and every time thereafter. (If only the same could be said for the USB connector on the other side.) It's also small, seems infinitely more durable than its flimsy-feeling elder and even stronger than micro-USB alternatives.

Superficially, it's hitting all the right marks, but Lightning comes up short in a number of important areas. It is, of course, incompatible with the roughly 350 million billion iPhone and iPod accessories currently on the market — a problem mostly rectified by a \$30 adapter. But, that's not a perfect solution, as even that won't support iPod Out, the specification used in some cars (most notably BMW and Mini) to enable in-dash control of an iPod or iPhone.

That's an admittedly low number of users left with no way forward, as the adapter will provide the power and analog audio that the vast majority of docks and accessories (and cars) in the world need, but it's still disappointing to see those automotive users, owners of some of the most expensive iPod



docks on the planet, left out in the cold.

More problematic is the speed of this new connector. Lightning's name comes as a cheeky play on the Thunderbolt connector, yet Lightning is, at least for now, wholly independent from that standard. In fact, the implementation that comes with the iPhone 5 is based on USB 2.0, meaning that theoretical maximum data transfer rates are no faster than what came before. In practice, though, we were surprised to actually find a tangible difference between the two phones.

To test this we lined up an iPhone 4S next to an iPhone 5 and ran both through a number of syncs with large files. Pulling 5.5GB of data from iTunes to the iPhone 4S took five minutes and six seconds on average. Syncing those same files to the iPhone 5 took three minutes and 57 seconds on average. So, nearly 20 percent faster, but we're not sure how much of this is due to the new connector and how much can be attributed to faster internals in the phone itself.

We confirmed with Apple that the iPhone 5 itself only supports USB 2.0, so a faster interconnect on the other end wouldn't help anything (and it's unclear whether the internal storage could consume data more quickly if it were there), but there's nothing stopping the company from expanding the Lightning standard to work with Thunderbolt or USB 3.0 in the future. For now, at least, the new connector remains confusingly at odds with Apple's own next-generation and simi-

larly named data interconnect. That's no problem if you're using one of the many and myriad wireless ways to pull content directly onto the device (hello, iCloud), but if you're still pushing your media over a cable from your main iTunes library, it's still going to take awhile.

INTERNALS

The heart of the iPhone 5 is the new A6 processor, a chip that Apple wasn't too keen to describe other than it being "twice as fast" as the last-gen A5 and "22 percent smaller." Thankfully, we have ways — namely, Geekbench, which identifies this as a dual-core 1.05GHz processor paired with 1GB of RAM.

Why not tell this up front? It's clear the folks in Cupertino are sick of people trying to draw conclusions based on core count and gigahertz goals, so they're just sitting this one out. Apple isn't alone, with Intel emphasizing names like Core i5 and Core i7 over raw clock speeds, and Qualcomm and NVIDIA using iterative designations like S4 and Tegra 3 for their respective processors. Still, none have gone so far as to stop publishing key

We've long-since departed from a time when clock speed or core count could be directly correlated with performance.





BOTTOMLINE

APPLE EARPODS**\$29** (standalone)**PROS**

- Comfortable fit
- Best-in-class sound quality
- Improved inline remote

CONS

- Not ideal for loud environments
- White cord, earbuds will get dirty fast

BOTTOMLINE

Apple's EarPods are a clear improvement over the company's old earbuds, but that's not saying much.



Click on
product
name to
read full
review

specifications altogether.

Maybe they should. We've long since departed from a time when clock speed or core count could be directly correlated with performance across CPU architectures and, with Apple constructing its own, custom SoC for the A6, that's doubly true. Why, the dual-core A5 chip in the iPhone 4S shows as 800MHz, so looking purely at numbers this new phone should only be 25 percent faster, not twice as fast. We'll put that to the test a little later.

For storage you have a choice of 16, 32 or 64GB models priced (on contract) at \$199, \$299 and \$399. Unsurprisingly, storage is not expandable, but hey, dig that iCloud.

Apple has also greatly improved the iPhone's wireless connectivity options, with the addition of LTE being the biggest talking point. Across the regional variants that will be sold around the world, 700MHz AWS bands for LTE for AT&T in the US are supported, plus Rogers, Bell and Telus in Canada and various carriers in Europe and Asia using bands 1, 3 and 5. Meanwhile, a CDMA version handles Verizon and Sprint LTE in the US plus KDDI in Japan using Bands 1, 3, 5, 13 and 25.

That's a lot of spectrum to cover — and we haven't even broached the GSM/EDGE, UMTS/HSPA+, DC-HSD-PA support in the GSM model, nor the CDMA EV-DO Rev. A and Rev. B support in the other. What remains to be seen is just what will be open and what



will be locked by the various carriers and whether international LTE *compatibility* truly means international LTE *usability*. That, in the short term, seems unlikely — at the very least until the new nano-SIM standard becomes a little more available.

The choice of CDMA vs. GSM will likely come down to which carrier you're on, and which carrier you'd *like* to be on. In the US, it's naturally AT&T offering the GSM model, Sprint and Verizon with CDMA. Beyond the availability of bands, an important distinction is the ability to do simultaneous voice and data. None of the iPhone 5 models can handle Voice over LTE, so when doing voice calling the phone falls back to either GSM or CDMA, and CDMA doesn't support simultaneous voice and data. So, if you absolutely need to talk and surf at the same time, you're stuck on AT&T in the US.

On top of all that is an expanded selection of WiFi connectivity options. The iPhone 5 adds 802.11a support to complete the set of a/b/g/n compatibility. That connectivity is now dual-band as well, so you can step up out of the crowded 2.4GHz into the clear air at 5GHz. Bluetooth 4.0, GPS and GLONASS support all return. Looking to get directions up the Road of Bones? You're covered here.

DISPLAY

The iPhone 5 uses a new 4-inch display that provides a half-inch of additional diagonal extent compared to those

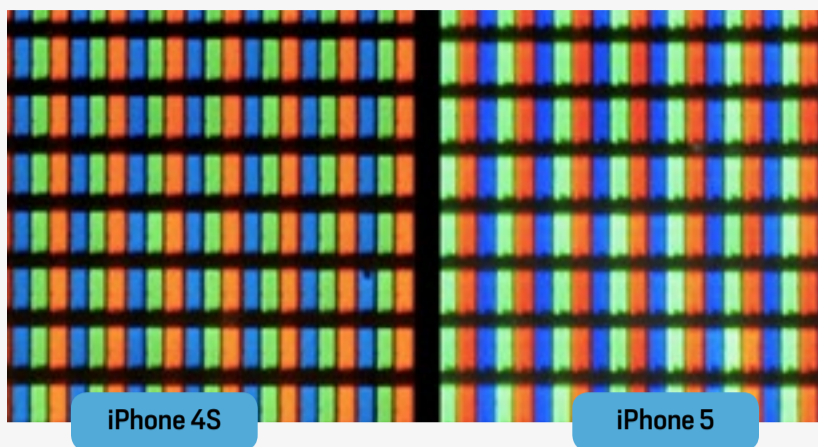
iPhones that have come before. Massive difference? Absolutely not, but it does give the phone enough surface area to stay competitive without sizing it beyond the thumb reach of your average consumer. In fact, its four corners seem just as attainable as before, helped by Apple shifting the display down just a few millimeters to get it closer to the center of your hand.

But we've talked enough about how it works in the hand. How does it *look*? Fantastic, frankly. The iPhone 4S already has one of the best displays on the market with regard to things like pixel density, brightness and contrast, and the iPhone 5 brings that up another notch — and not just because it has an additional 176 rows of pixels. Putting both under the microscope, indeed, shows the same basic subpixel structure.

If there was one complaint about the 4S display it's that it suffered from a

The iPhone 4S already has one of the best displays on the market with regard to pixel density, brightness and contrast, and the iPhone 5 brings that up another notch.





somewhat greenish hue. The 5 fixes that — if anything, extending just a smidgen to the warm side, but displaying imagery that's much more chromatically neutral than before. The phone also moves up to full sRGB coverage, meaning it can accurately represent every color provided by that spectrum, a claim to fame few smartphones can match.

Apple also promises fewer layers sandwiched between the subpixels and the surface of the glass, the idea being greater contrast when you're outside. Sure enough, the iPhone 5 is a great device for using out in direct sunlight, though to be fair it's a minor improvement over the 4S, which likewise doesn't fear the sun.

CAMERAS

The iSight camera here is basically unchanged from the 4S. The overall mecha-

nism has been pared down a bit to fit within the tight confines of the iPhone 5, and the protective bit of glass on the outside has been replaced with a 6mm disc of crystal sapphire for durability, which we rather regrettably did not have a chance to put through a torture test.

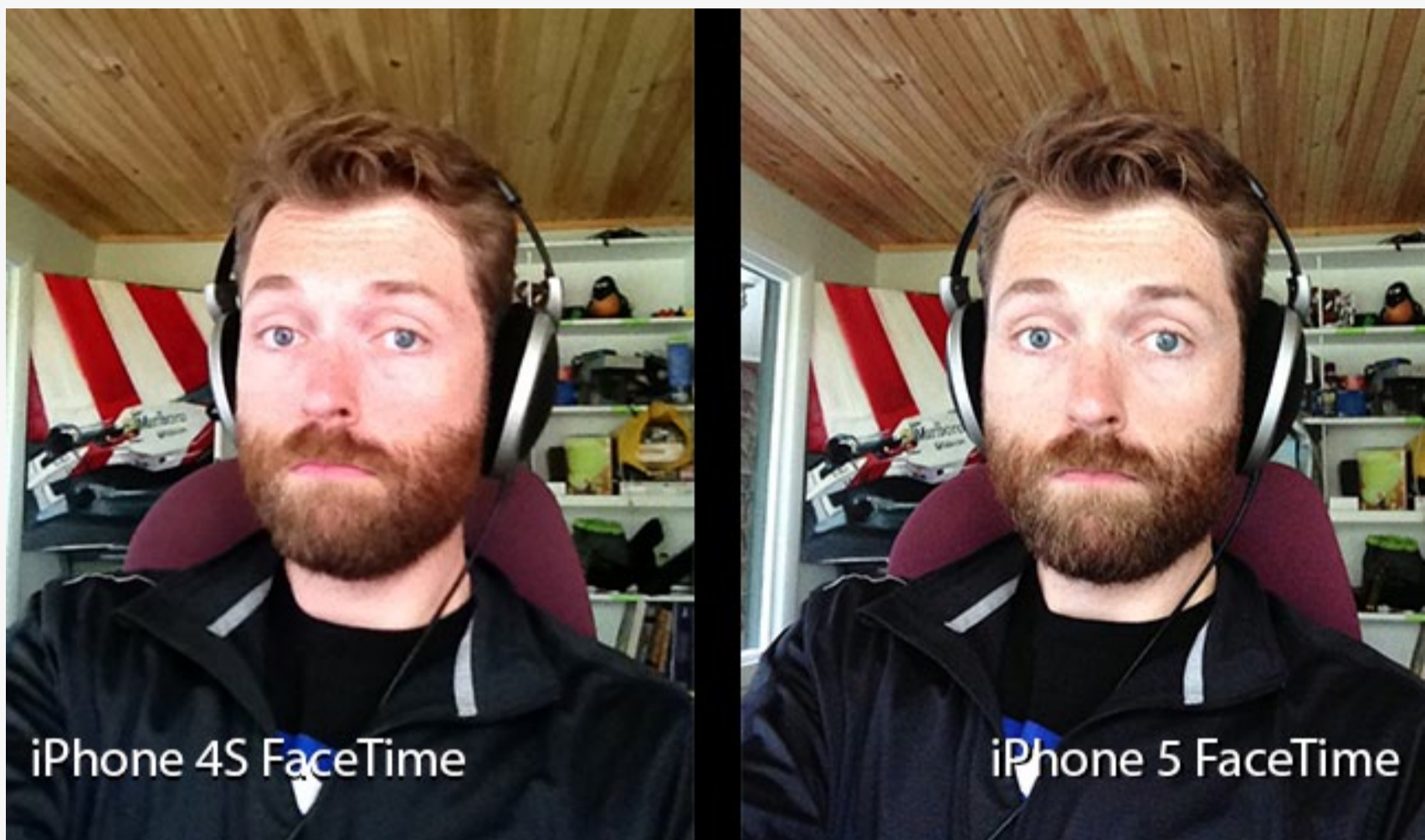
So, that means we have an 8-megapixel, backside-illuminated sensor shooting through a five-element, f/2.4 lens. And, with the bigger screen, we now have a larger shutter release button, which is slightly easier to tap by big thumbs.

Image quality is still among the best out there for a cameraphone, unimproved but quite impressive in varying conditions. What has improved, though, is the speed. Tap that big ol' thumb as quick as you can and the iPhone 5 will keep up, whereas the iPhone 4S eventually fell behind. It's at least on par with the Galaxy Nexus, which also has a ridiculously quick shooter.

So, while the camera on the back is minimally improved, the one on the front is a big step forward. Replacing the VGA FaceTime camera is a 1.2-megapixel FaceTime HD unit capable of capturing 720p video. Resolution is obviously massively increased, but so too is overall image quality, with

Whether or not you actually *want* a higher-quality front-facing camera depends on just how much time you spend putting your face on before getting your FaceTime on.





far more accurate color reproduction. Of course, whether or not you actually *want* a higher-quality front-facing camera depends on just how much time you spend putting your face on before getting your FaceTime on.

New with iOS 6 is Panorama mode, where you can tap one button and just sweep the phone around to create a massive image. Resulting files are something like 11,000 x 2,500, with the exact resolution varying based on how smoothly you panned from left to right. If you wander up or down the display will warn you to keep in line, and you'll want to, as every time you stray you're effectively cropping the resulting image.

The file is captured in one seamless motion and the final product is almost always free of the sort of glitches and

visual aberrations typically found in these self-stitching panoramas. That said, it isn't totally error-free. We took one panorama inside the New Museum in New York City, a room full of thin black lines against a white background. It's about as tough a test as Panorama mode will ever see and indeed you can make out some slight glitches in those lines, but in normal cityscapes and country scenes we struggled to find signs of artifacting. The results are almost always very impressive.

Video capture remains the same on the rear-facing camera — 1080p30 maximum and offering bright contrast and colors plus the same digital image stabilization that we saw before, which results in reasonably smooth shots even when you, yourself, aren't so smooth.



PERFORMANCE AND BATTERY LIFE

Two times faster? Twice the graphics performance? Better battery life? Actually, yes. The iPhone 5 over-delivers on all those promises. Running the Geekbench test suite on the iPhone 4S gave us an average score of 634. The iPhone 5 netted an average of 1,628. That's more than twice as fast and, while you won't necessarily see such huge increases in day-to-day usage, apps *do* load noticeably quicker, HDR images are processed in half the time and tasks like video rendering in iMovie are equally expedient.

SunSpider scores average at 924ms, which is more than twice as fast as the 2,200ms the iPhone 4S manages and still quite a bit quicker than the 1,400ms scored by the Galaxy S III and the 1,700ms managed by the HTC One X. More important than numbers, web pages load very quickly, snapping into view as fast as your data plan can shovel the bits into Safari and, once there, smoothly reacting to your gestures.

Naturally, we'd be telling just half the story if we only talked performance. There's an important question that's left: what kind of battery life can you expect? Power is nothing without longevity and, shockingly, the iPhone 5 copes amazingly well. In a day of heavy usage with LTE, GPS and WiFi all enabled, we managed 14 hours and 18 minutes before the phone succumbed to the elements.

On our standard battery rundown

Two times faster?
Twice the graphics
performance? Better
battery life? Actually,
yes. The iPhone 5
over-delivers on all
those promises.

test, in which we loop a video with LTE and WiFi enabled and social accounts pinging at regular intervals, the iPhone 5 managed a hugely impressive 11 hours and 15 minutes. That's just 10 minutes shy of the Motorola Droid RAZR Maxx.

When it comes to wireless performance, the iPhone 5 didn't disappoint either. We tested a CDMA variant on Verizon's network, going between 3G and 4G connectivity as we traveled about this great nation. Overall, the iPhone 5 did an excellent job at finding and keeping signals, and call quality is quite good. Callers came through loud and clear and said we sounded great as well — though most of the time we sadly couldn't tell them what we were calling them on. Data transmission speeds were at or above comparable Android LTE devices held nearby, usually in the 10-20 Mbps range both up and down.

SOFTWARE

The iPhone ships with Apple's latest mobile operating system, and for our full take on that we'll direct you toward





BOTTOMLINE

APPLE IOS 6

\$=FREE



Click on
product
name to
read full
review

PROS

- Voice turn-by-turn navigation
- Improved overall performance
- Siri has improved functionality

CONS

- App Store layout is difficult to navigate
- Lots of minor improvements, few major revisions
- New maps are decent, but still a work in progress

BOTTOMLINE

iOS 6 packs in plenty of improvements, but lacks the pizzazz we've seen in previous updates.

our full iOS 6 review. But, let's discuss a few things that are particularly applicable to smartphones. It's the new Maps app that will have the biggest impact on most users, and in general we found Maps beautiful and fast, a smooth and very aesthetically pleasing way to get from place to place.

But, it isn't nearly as comprehensive as Google's offerings on Android. The biggest drawback is the unfortunate lack of public transportation directions. If you haven't quite mastered New York City's subway system, you won't get any help from your iPhone 5. Curiously, the app offers to give you public transportation directions, but should you choose that option it pops you straight into the App Store with a search for "Routing Apps." Right now, there are zero results.

It also lacks the detailed layering that you can apply in Google Maps and Google Navigation, showing you whatever you want to see. Maps will list some important POIs — mostly gas stations and convenience shops — but if you want to see all Mexican restaurants on your route you'll have to dig deeper. Finally, while Maps does show traffic, we never saw it give a warning about traffic along a route currently being navigated. That's important information for road trippers.

Passbook is similarly incomplete. This is Apple dipping its toes into the virtual wallet space, providing the ability for companies to write custom apps





Buy a new iPhone 5 and get a free set of EarPod headphones.

that will slot in here and provide access to things like movie tickets and value cards. But, as few major players have pledged to deploy their services here, this serves as a framework for something that will be cool rather than something that actually is right now. We're expecting good things.

The new Shared Photo Streams feature, however, is a welcome addition. Here you can select a few pictures from your roll, or indeed a new picture you just snapped, and share it with one or more friends — or post it in the public for all to see. New photos added to the stream



popped up within about 30 seconds and, while it isn't quite as seamless and fun as Google+ Events, it's a nice way to share photos with friends.

In general, iOS 6 has seen some nice nips and tucks where it needed it. iCloud integration is tighter, Safari is better and the overall experience is more polished. But, it isn't a major step forward in any regard. Suffice to say, conservative iPhone users won't have to worry about anyone moving their cheese, but if you didn't like iOS before, you still won't today.

WRAP-UP

The iPhone 5 is a significant improvement over the iPhone 4S in nearly every regard, and in those areas that didn't see an upgrade over its predecessor — camera, storage capacity — one could make a strong case that the iPhone 4S was already ahead of the curve. Every

area, that is, except for the OS. If anything, it's the operating system here that's beginning to feel a bit dated and beginning to show its age.

Still, the iPhone 5 absolutely shines. Pick your benchmark and you'll find Apple's thin new weapon sitting at or near the top. Will it convince you to give up your Android or Windows Phone ways and join the iOS side? Maybe, maybe not. Will it wow you? Hold it in your hand — you might be surprised. For the iOS faithful this is a no-brainer upgrade. This is without a doubt the best iPhone yet. This is a hallmark of design. This is the one you've been waiting for. **D**

Zach Honig and Edgar Alvarez contributed to this review.

Tim Stevens is Editor-in-chief at Engadget, a lifelong gamer, a wanna-be racer, and a born Vermonter.

BOTTOMLINE

APPLE iPHONE 5

\$199-\$399

(On Contract)



PROS

- Beautiful, sophisticated design
- Thinner, lighter
- Larger screen, still easy to hold
- Great performance
- Impressive battery life

CONS

- Lightning connector incompatibilities

BOTTOMLINE

Apple's iPhone 5 is an amazing performer with great battery life wrapped in a delicious shell. It's a top-shelf device.



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VISUALIZED

PI IN THE SKY



DR. MICHAEL KARASICK



THE VICE PRESIDENT OF IBM RESEARCH - ALMADEN steps away from the lab to talk about his least favorite airport and his longing for the Jaguar F-Type.

What gadget do you depend on most?

At work, my laptop (currently a small Mac PowerBook), at home, an iPad for everything but printing ('nuf said), and on the road, a smartphone, currently Android.

Which gadget do you look back upon most fondly?

Probably a Logitech Harmony

remote (I am now on my fourth). Solves a unique problem in an interesting, and useful way.

Also — and this is not really a gadget but by far the most enjoyable computer system that I've ever used (and I am dating myself here) — is a Symbolics LISP machine. Used one for my Ph.D. thesis programming work, and as a front-end to a Connection Machine — unbelievably productive environment — but maybe not exactly a gadget.

Another non-gadget that I depend on almost more than anything else is an electronic spell-checker — my brain moves a lot faster than my fingers do, and a spell-checker compensates for that quite a bit.

Which company does the most to push the consumer electronics industry?

ARM [maybe “push” is not the right word — I would say “enable”]. Lots of exploiters though, but without a low-power processor, no dice. I guess there are some other key technologies that we are seeing really surface in consumer



“I don’t name stuff, except my cats — they are named Buzz and Lincoln — I am a gadget-by-value, not gadget-by-name kind of guy.”

devices that people don’t think about — Corning Gorilla Glass for example.

What is your operating system of choice?

Current favorites are Mac OS and Android — I have done a spectacularly good job of unlearning Windows, but I am trainable.

What are your favorite gadget names?

I don’t name stuff, except my cats — they are named Buzz and Lincoln — I am a gadget-by-value, not gadget-by-name kind of guy.

Which app do you depend on most?

Email and IM — typically I have 40 simultaneous IM conversations going on at once.

What traits do you most deplore in a smartphone?

Figuring out where the “options”

or configuration buttons are. On a PC, you point at something, and then you have options. Android has settings that work in this way. iPhone does not — it has a single button. It means that every application does things differently.

A close second is a virtual keyboard — I get the “why,” I am just terrible at using them. I am waiting patiently for tactile screen feedback in a virtual keyboard to arrive on a smartphone near me.

Which do you most admire?

This is similar to asking me what is my favorite airport — tough to answer that one, but I know my least favorite airport. That one is easy as it’s likely shared by others — de Gaulle in Paris.

What is your idea of the perfect device?

Pick it up and just use it. I mostly do not read manuals any more. We use the term at IBM “successive disclosure” — simple things should be obvious, like sensible defaults with well-understood ways to change them. We use the term “falling off a cliff” when you are forced to do something more complicated than the design al-



“The world will turn on the ability to have higher-capacity battery technology.”

lows for. As you get to more complicated commands, the ability to do those things should be made available on a gradual scale. There should be a nice GUI-esque way to do things instead of doing things like typing in a Unix command prompt, but there's not.

What is your earliest gadget memory?

The first thing I remember as “a gadget” was probably a Casio solar-powered pager watch. Geeky, cool, but I never could get the thing right. About 15 years ago, we built a “Linux watch” in IBM Research, with a low-power OLED display. That one was fun to build, program and think about.

What technological advancement do you most admire?

I am watching the evolution of battery technology closely. The world will turn on the ability to have higher-capacity battery technology. We are working on the next generation of such at IBM Research, Almaden, called lithium-air batteries, with about

the energy density (by weight) of gasoline, but a whole lot safer than today's lithium-ion batteries. If this technology is commercialized, everything changes.

Which do you most despise?

Wow, lots of choices here too. I guess I am not a fan of the progression of consumer-centric social networking technologies — but despise is a really strong word — maybe “confused by”, or “having trouble getting the value of,” or “not getting it.”

What fault are you most tolerant of in a gadget?

Kind of like people, if they do something unique, surprising or valuable, then you are tolerant of a lot. If they don't, you are less tolerant.

Which are you most intolerant of?

Lousy user experience.

When has your smartphone been of the most help?

Access to internal corporate email, instant messaging and document viewing while talking on a Bluetooth headset in an airport on the other side of the planet. It is hard



“I want a bigger screen — I hate to carry around stuff, and I would love to ditch my tablet. Waiting patiently for a selection of phones with five-inch(ish) screens.”

to explain the quantum improvement in being able to participate in a meeting from anywhere that these new devices allow, now that they are powerful enough, with apps, and with a network connection that allows simultaneous voice and data connections. I remember the old, old days.

What device do you covet most?

Waiting patiently for the new Jaguar F-Type — okay, not quite a gadget, but it is the honest truth.

If you could change one thing about your phone what would it be?

I want a bigger screen — I hate to carry around stuff, and I would love to ditch my tablet. Waiting patiently for a selection of phones with five-inch(ish) screens.

What does being connected mean to you?


Connectivity is about people. To me it means people being able to

find me — specifically the people that I care about being able to find me more quickly. That means family and people who depend on me at work.

When are you least likely to reply to an email?

It is a toss-up: (a) Usually when the answer, no matter what it is, will really annoy the recipient, and the recipient is a person that I really do not want to annoy — thought is required. (b) When it is a long email. I do not have the time nor the patience to read novels disguised as emails. I often quip to my staff the Mark Twain line: “I did not have time to write a short letter so I wrote a long one.”

When did you last disconnect?

Every night and during the day and in almost every meeting that I am in — I make it a habit to participate 100 percent. The challenge with connected gadgets is the potential to dilute one’s attention. When you have members of your team trying to get your attention and you are distracted with one of the many connection modalities available, it is insulting to them. 



The week that was
in 140 characters or less.

MORE FROM THE MOBILE BATTLEGROUND

@harrymccracken

There's an alternate universe somewhere where connectors never got better and the iPhone has a Centronics port.

@jrvolpe

Oh, that LG Optimus G event this morning in NYC? Yar, they served booze at 8AM.

@Gartenberg

MSFT and HTC will be positioning the 8s and 8x as the signature phones says HTC president. Wonder how Nokia feels about this...

@rossrubin

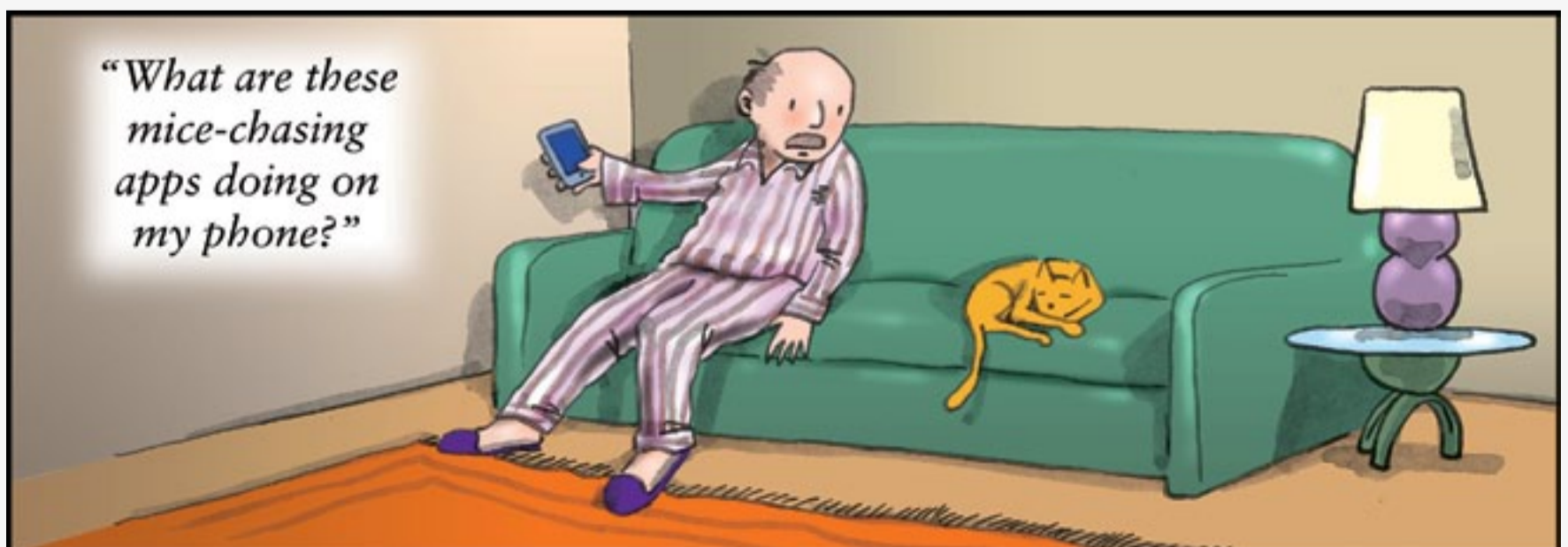
iPhone 5:
conveniently
bundled to help
you get the most
out of your new
Lightning cable.

@phonewisdom

Has LG announced
a phone that I'm
actually looking
forward to? With
few us carrier
alterations? Whoa.

THE STRIP

BY SHANNON WHEELER



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