

PC MAGAZINE



1000 BEST PRODUCTS OF THE YEAR



**COVER STORY****BEST OF THE YEAR**

From PCs and tablets to phones, HDTVs, and apps, the top tech products of 2013 represent more power and value than ever before.

Desktops**Laptops****Peripherals & Components****Storage****Software & Internet****Mobile Apps****Security****Printers****Scanners****Projectors****Networking****Tablets****Ebook Readers****Mobile Devices****Cameras****Audio****HDTVs & Home Theater****Gaming & Toys****Digital Fitness**

REVIEWS

CONSUMER ELECTRONICS

Apple iPad Air

Sonos Play:1

**Google Nexus 5
(Unlocked)**

Samsung Galaxy NX

HARDWARE

Microsoft Surface 2

**Asus Transformer
Book T100TA (64GB)**

**Apple MacBook Pro
(15-inch)**

**Samsung Ativ Book 9
Plus**

SOFTWARE

McAfee LiveSafe



Apple iPad Air



Sonos Play: 1



Samsung Galaxy NX



WHAT'S NEW NOW

THE TECH BEHIND 100TB HARD DRIVES

3D thinking could lead to the biggest hard drives we've seen.

STAY SAFE FROM SCAMMERS

You can use the Internet to foil phone scammers out of the gate.

CHAT: CINDY GALLOP

The acclaimed entrepreneur offers ten tips to advance your business in a social media world.

HOLIDAY GIFTS FOR LESS THAN \$100

You don't have to spend a lot to find cool gadgets this season.

LUXURY GIFTS WE LOVE

Five tech-focused gifts that are worth a holiday splurge.

**Anything you say
in 140 characters is
never going to capture
the nuances of any
situation.**

—Cindy Gallop,
Social Media Expert

OPINIONS

DAN COSTA

First Word

SEBASTIAN ANTHONY

**The Military's Child-Soldier
Future**

MITCHELL HALL

**The Great American Phone
Insurance Rip-Off**

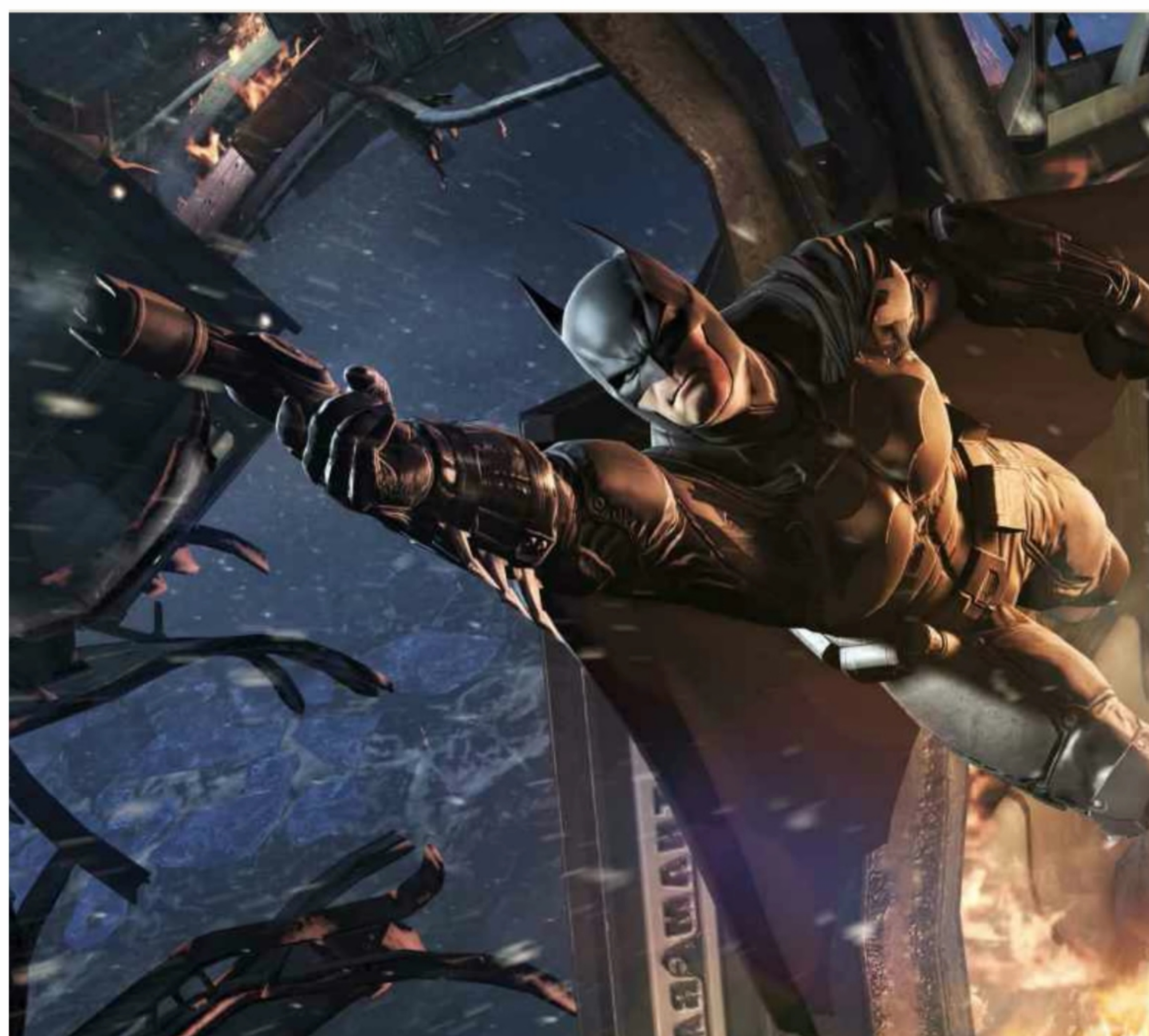
IBRAHIM ABDUL-MATIN

**How the Tech Sector Can
Help the Civic Sector**

“
**Are we
dealing with
a generation
of self-
absorbed
narcissists?**
”

JOHN C. DVORAK
Last Word

DIGITAL LIFE



GET ORGANIZED

Download and Organize
Your Facebook Photos

SHOPPING

The Best Websites for
Buying Gadget Gifts

GAMING

Spend a very Gotham
Christmas with
Batman: Arkham Origins

APPSCOUT

Our Favorite Apps
for December



Every Day Is Christmas

In PC Labs, every day is Christmas. Every day the UPS and FedEx guys show up with boxes containing the latest laptops, cameras, phones, and other gadgets. We get to open them up, try out the products, and see how they compare to the laptops, cameras, phones, and other gadgets we received last week. As of this writing, we are closing in on 2,000 lab-tested reviews in 2013, more than any other technology publication out there.

In this issue, after weeks of staff-wide debates, we have culled that list down to the 100 best products of the year. In this space I want to explain a few notable omissions and call out a few of my personal favorites.

Perhaps most notable by their absence are the Xbox One and PlayStation 4. The mid-November release dates for both of these consoles made it impossible to adequately test them. And even after we've had time to test them, it's going to be very hard to pick one console over the other. As we explained in our last issue, Sony and Microsoft are taking different paths. Sony wants to be the ultimate gaming machine, whereas Microsoft is hoping people will spend an additional \$100 for a more complete living room entertainment solution. At the moment, there's no way to tell which strategy will win out.

As for my picks, I've purchased a number of the products on this list over the last few months. And I do mean *purchased*—all those toys that come in for review get sent back to the vendors. (So, it isn't *exactly* like Christmas, but still...) My favorite

“

**All those toys
that come in
for review get
sent back to
the vendors.
(So it isn't
exactly like
Christmas, but
still...)**

”

pick-up this year was the Sony HT-CT260 Home Theater Soundbar; it completely transformed the audio profile of my apartment. Not only do my movies and television programs sound better, but with a simple Bluetooth connection the HT-CT260 also functions as the primary speaker for my well-curated collection of Slacker radio stations.

I also picked up both BioShock Infinite and The Last of Us for the PlayStation 3. I didn't finish either game, but my son did, so I feel some sense of satisfaction anyway. I also want to give a shout out to LastPass, which got beat out by Dashlane for a Best of the Year award, but is still an excellent product. Don't worry guys, I'm not switching.

Of course, there is more to this issue than just a long list of great products. In her “Get Organized” column this month, Jill Duffy explains how to find and download all those photos you have posted to Facebook over the years. Plus, the indomitable Cindy Gallop shares her insights on social media and technology-fueled entrepreneurship.

I hope this issue makes your holiday shopping a little bit easier.



dan_costa@pcmag.com

What's New Now

**THE TECH BEHIND 100TB
HARD DRIVES**

STAY SAFE FROM SCAMMERS

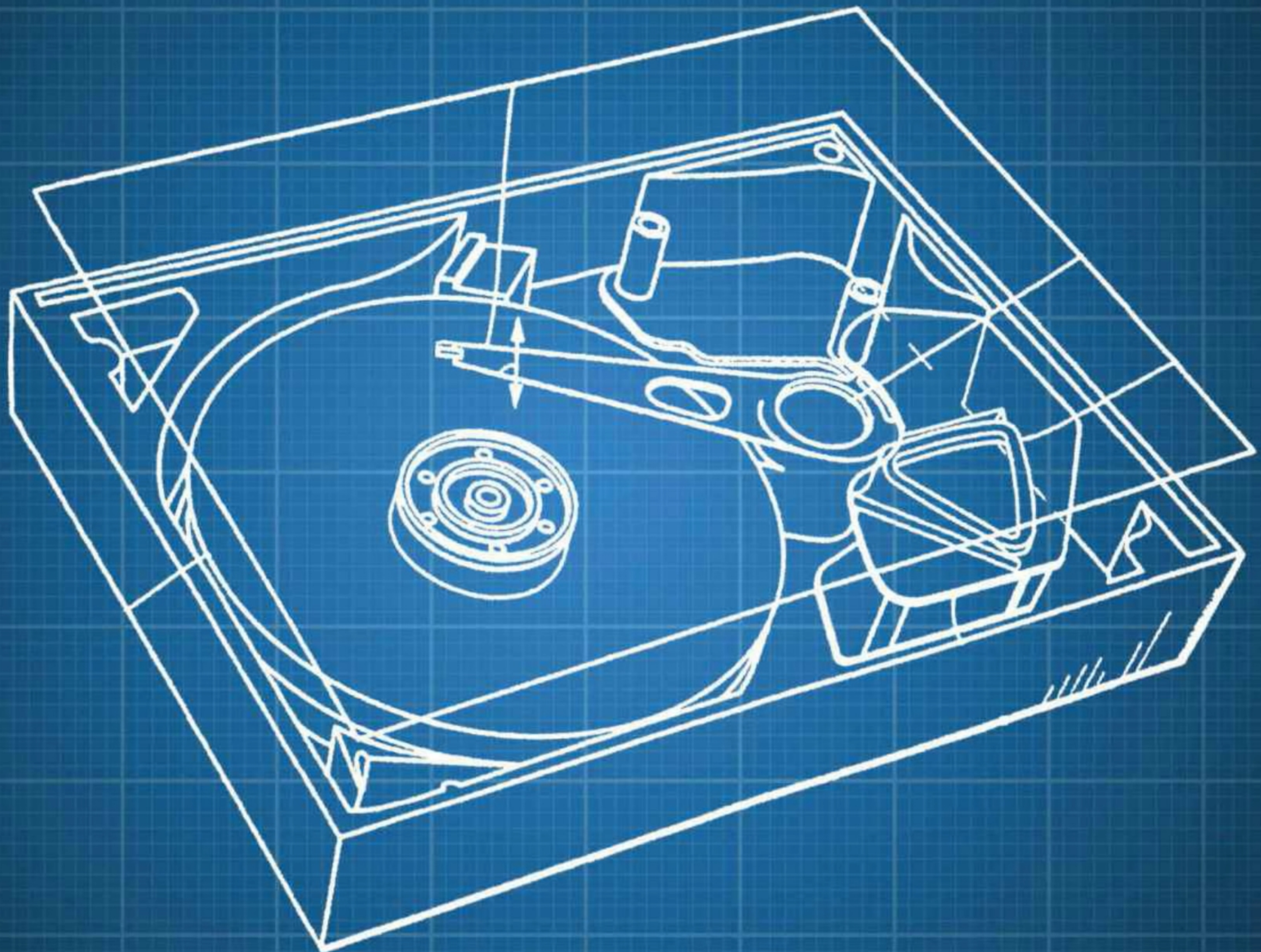
CHAT: CINDY GALLOP

**10 HOLIDAY TECH GIFTS
FOR LESS THAN \$100**

LUXURY GIFTS WE LOVE

The Tech Behind 100TB Hard Drives

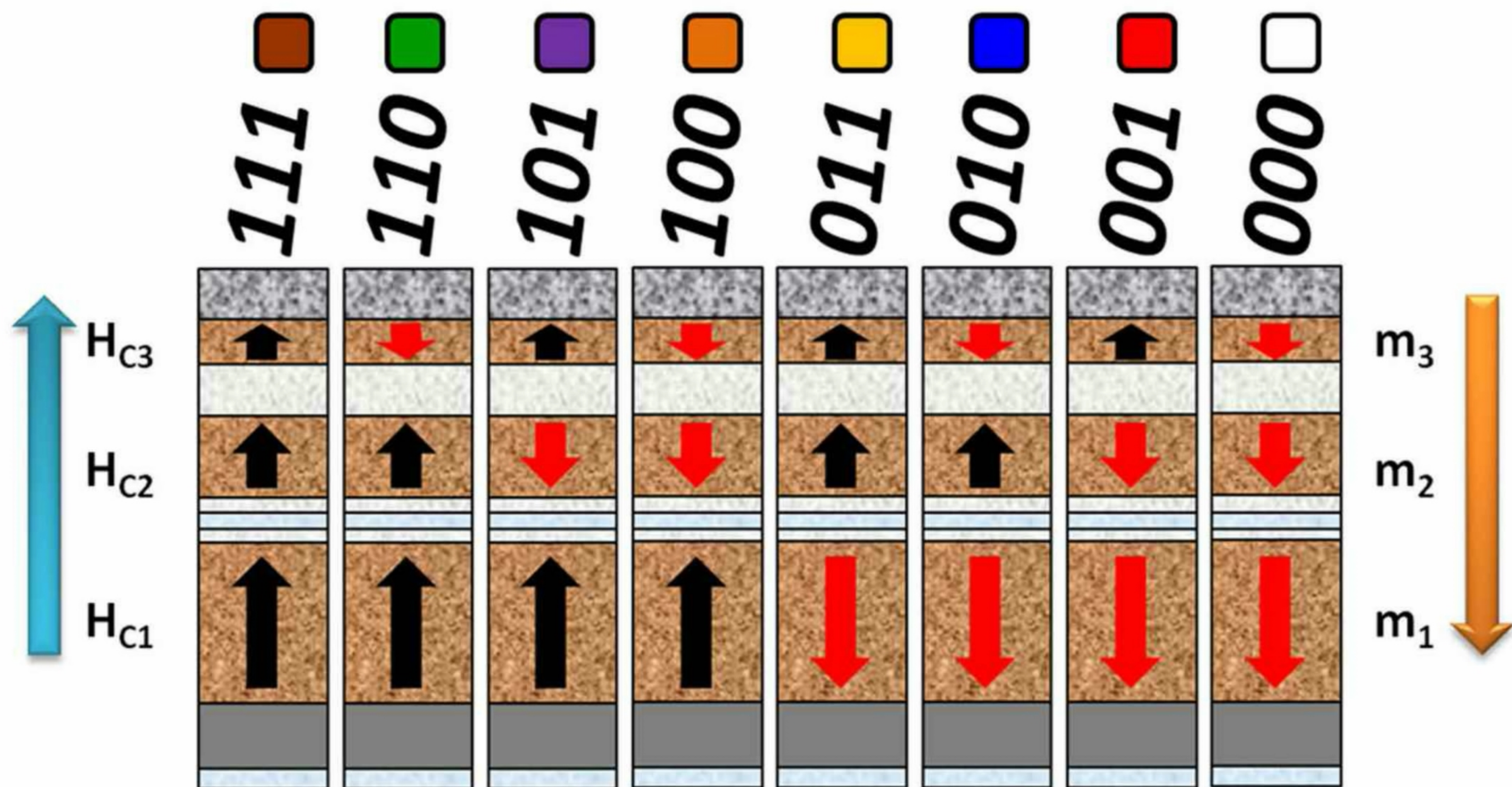
BY SEBASTIAN ANTHONY



Running out of storage space? Thanks to engineers at Florida International University (FIU), hard drives with 100TB or more of storage space could be on the horizon.

Most magnetic storage breakthroughs have been fundamentally 2D in their implementation, and thus are ultimately restricted by superparamagnetic limits: Magnetic bits can only be so small before neighboring bits or changes in temperature can randomly alter the magnetism. Therefore, the only solution is to move beyond simple improvements—and into the third dimension.

The FIU researchers have created a new hard drive platter that allows for the writing and reading of 3D magnetic data. In essence, instead of having just one



magnetic layer, the new platter has three, with isolation (insulation) layers sandwiched in between. On a conventional hard drive platter, a magnetic site stores just a single bit of data; here, each magnetic site can store up to eight (north/north/north, south/south/south, N/N/S, N/S/S, and so on).

To read data, a weakly magnetic head measures the vector sum of the three magnetic fields. To write data, each layer of the recording medium has slightly different properties, so that they can only be written by a specific type and strength of magnetic field, which is output by a special recording head.

For now, FIU's new magnetic recording medium is an in-the-lab tech demo. Whereas conventional hard drive platters are mass-produced using a simple process called magnetron sputtering, FIU's platter is more like a small disc of silicon that goes through dozens of painstaking processes, including e-beam lithographic patterning. This isn't to say that multilayer 3D (ML-3D) recording won't become a reality, but alternatives such as heat-assisted magnetic recording are much closer to commercial adoption.

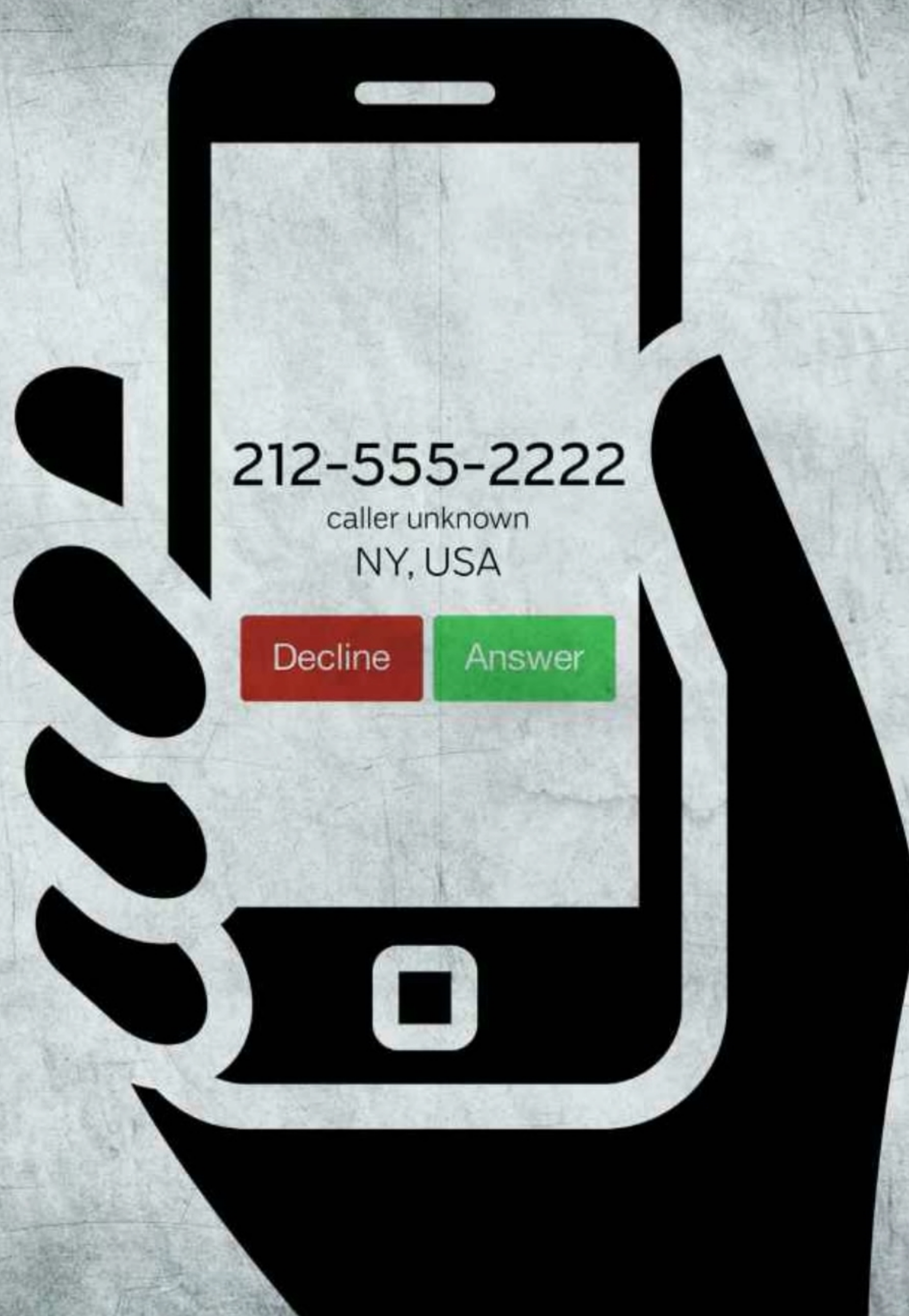
That ML-3D might be used to create 100TB or larger hard drives in the future, though, is still exciting news—and, interestingly, perhaps the technology that will finally kill off the magnetic tape, which is still hanging in there as the preferred bulk offline storage medium.

POLE POSITION

A schematic of the structure and desired magnetic properties of FIU's new platter technology. The black and red arrows denote two possible magnetic states in each stack.

Stay Safe From Scammers

BY FAHMIDA Y. RASHID



What's the scariest thing that happened to me on Halloween this year? It was a phone call.

According to the caller ID, it came from a local number. When we answered, a male voice identified himself as calling from the “Kings County Sheriff’s Office” and asked for a member of my family. When we explained that she wasn’t available, we were told that there was an outstanding warrant out for her. We were also told she was going to be arrested in the next 45 minutes, because of outstanding federal taxes from 2010.

We are always willing to cooperate, within reason, so we asked for more information. After giving us a phone number and the name of the person we

should speak with at the federal government office, the caller transferred us to that number. The agent who answered the phone claimed that if we wanted to resolve this right away, we would have to provide a cell phone number. The person wasn't very pleased when we refused, and kept repeating that our lack of cooperation meant that this family member would be arrested in 45 minutes.

Scary? A little bit.

RED FLAGS APLENTY

There were lots of ways to tell right away that this call was a scam.



New York City residents know that we don't have a "Kings County Sheriffs Office." We have the NYPD. We do actually have a Sheriff's Office, though, and it does handle tax evasion issues, but as the friendly spokesperson at the Sheriff's Office told me when I asked, the office handles only cases for local taxes.



The caller kept saying "federal government"—not the IRS. Not the Internal Revenue Service.



Law enforcement doesn't call and say, "Pay up or we will arrest you." If there's a warrant, the arrest happens first and there's an opportunity to fix it. Usually with a judge.



The demand that we "act in 45 minutes" was clearly a social-engineering tactic to create a high-pressure situation, said White Hat Security's Robert Hansen.



I didn't mention this in my initial summary, but we were told we were going to be transferred to speak with "Michael Black." Yet when he answered, he said, "This is Khan." If you are going to run a scam operation, get your names straight.



**The
scammers
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act quickly,
and were mad
we didn't.**



When I mentioned to the Sheriff's Office spokesperson the caller claimed the amount due was \$1,798, he laughed and said, "There are people who owe tons more than that and don't get arrested."

Remember, if there really is an issue of overdue taxes, the IRS—or any government entity for any kind of problem, really—will first send a letter by postal mail. And follow up by mail. The initial call won't come from law enforcement.

"You don't get an arrest warrant. You just get a lot of mail," Chester Wisniewski of Sophos told me.

The scammers wanted us to act quickly, and were mad we didn't. They kept mentioning how it would be our fault if the arrest happened.

DON'T PANIC—THINK

It helped that we didn't panic and fall into the trap of thinking we had to do something right away.

We demanded information. If this kind of request comes from a legitimate employee of a company, or a member of law enforcement, they will immediately provide the necessary information, such as the name, extension, and badge number, so you can verify who they are. If this happens over email, don't click on a link, but instead go directly to the organization site and see if you can get more details.

We immediately called the IRS—not with the number the caller gave us, but by looking it up on IRS.gov—and also the Sheriff's Office. In fact, when we called the Sheriff's Office, the spokesperson immediately said that we weren't the first ones reporting this scam.

You should also try to gather as much information as possible on the person calling so that you can report it to the real law enforcement. We didn't get much, but we got the person's "name" and phone number.

"Trust your gut. If the call doesn't seem right, trust that feeling," Wisniewski said. He also noted that in these situations, hearing an Indian accent generally puts him on guard because of past scams originating from Indian call centers. I am not saying all Indian accents are suspect (my entire family has an accent), or that non-accented callers are always legitimate. But consider that there have been a lot of suspicious calls recently and it is one thing to consider if you are feeling suspicious.

How Social Media Can Lead to Business Success

Innovator and entrepreneur Cindy Gallop thinks success in business depends on being yourself—and making sure others know it. BY JILL DUFFY



“

Identify exactly who you are and what you stand for.

”

Web entrepreneur, business consultant, and former advertising executive Cindy Gallop is more forward on social media than many business leaders. Gallop, who in addition to her consulting and advertising work also started IfWeRanTheWorld.com and MakeLoveNotPorn.com, believes success relies on expressing your true self in all areas of life, from the boardroom to the bedroom, and on social media. I interviewed Gallop recently in her lavishly decorated home about how to thrive in the digital age by having a rich social media and Internet presence. Here's her advice for how business leaders—or anyone—can effectively leverage social media.

1. EMBRACE YOUR PHILOSOPHIES

“If you identify exactly who you are and what you stand for...then you never have to worry about being caught doing anything you are ashamed of.”

2. BE CONCISE

“One of the things I recommend to everybody is that you should have a very short, memorable sound bite that describes what it is you do.”

3. TRUST EVERYONE

“Social media, to be effective, requires a high-trust environment that enables you to do business in a real-time, responsive way, in the way that today’s business world demands.”

4. MAKE THINGS HAPPEN

“Whether it’s you or somebody else in your business, having a presence on social media, being responsive to customers, using it to make things happen in the world can be very, very powerful.”

5. HAVE CLEAR GOALS

“Absolutely use social media to highlight what you want to do to improve things for your constituency and how you want to do it with them.”



PRACTICE WHAT YOU PREACH

Cindy Gallop’s Manhattan apartment breaks all the design rules—but it’s as clear an expression as you’ll find of who she is and what she believes.



6. UTILIZE DOWNTIME

“When you’re waiting to make a call, or you’re waiting to go into a meeting, or you have some downtime in your store—that’s the moment when you can...pop onto Facebook, pop onto Twitter, see what everyone else is saying, and post a status.”

7. EMPOWER EVERYONE

“The best businesses empower every single employee to do whatever it takes to make a customer happy.... When you don’t empower employees to do that...you are never going to win in business, and you’re not going to own the future.”

8. STAY RESPONSIVE

“Make sure that you’re responsive to every single customer service tweet and Facebook comment... because today that is absolutely how people judge brands and businesses.”

9. AIM FOR TRANSPARENCY

“Today, everything you do as a [business or personal] brand is potentially in the public domain courtesy of the power of the Internet.”

10. PREPARE FOR TROUBLE

“Being misconstrued is a function of the Internet.... Anything you say, people are going to disagree with, and anything you say in 140 characters is never going to capture the nuances of any situation. And that’s why it’s so important that anything you say comes from a place of, ‘This is what I believe in generally, and therefore, you may misconstrue what I say on Twitter, sometimes in a way that I didn’t even realize or I inadvertently phrased something incorrectly, but if you go and look at everything else I’m doing, you will see the sense of what I’m doing.’”

10 Holiday Tech Gifts For Less Than \$100

BY MEREDITH POPOLO

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Lomography Experimental Lens Kit

\$89

microsites.lomography.com

The greatest artists experiment with new techniques and now Lomography, the maker of the popular retro plastic film camera, is giving you a chance to join them. Compatible with all Micro Four Thirds digital cameras, the kit includes three lenses: a fisheye lens for funny 160-degree shots, a wide-angle 12mm lens, and a standard 24mm lens. Lomography says it's the first kit to let you take real, optical multiple-exposure shots with a digital camera. Plus, you can apply extra splashes of color to your crazy shots with fun filters.

10 Holiday Tech Gifts For Less Than \$100

BY MEREDITH POPOLO

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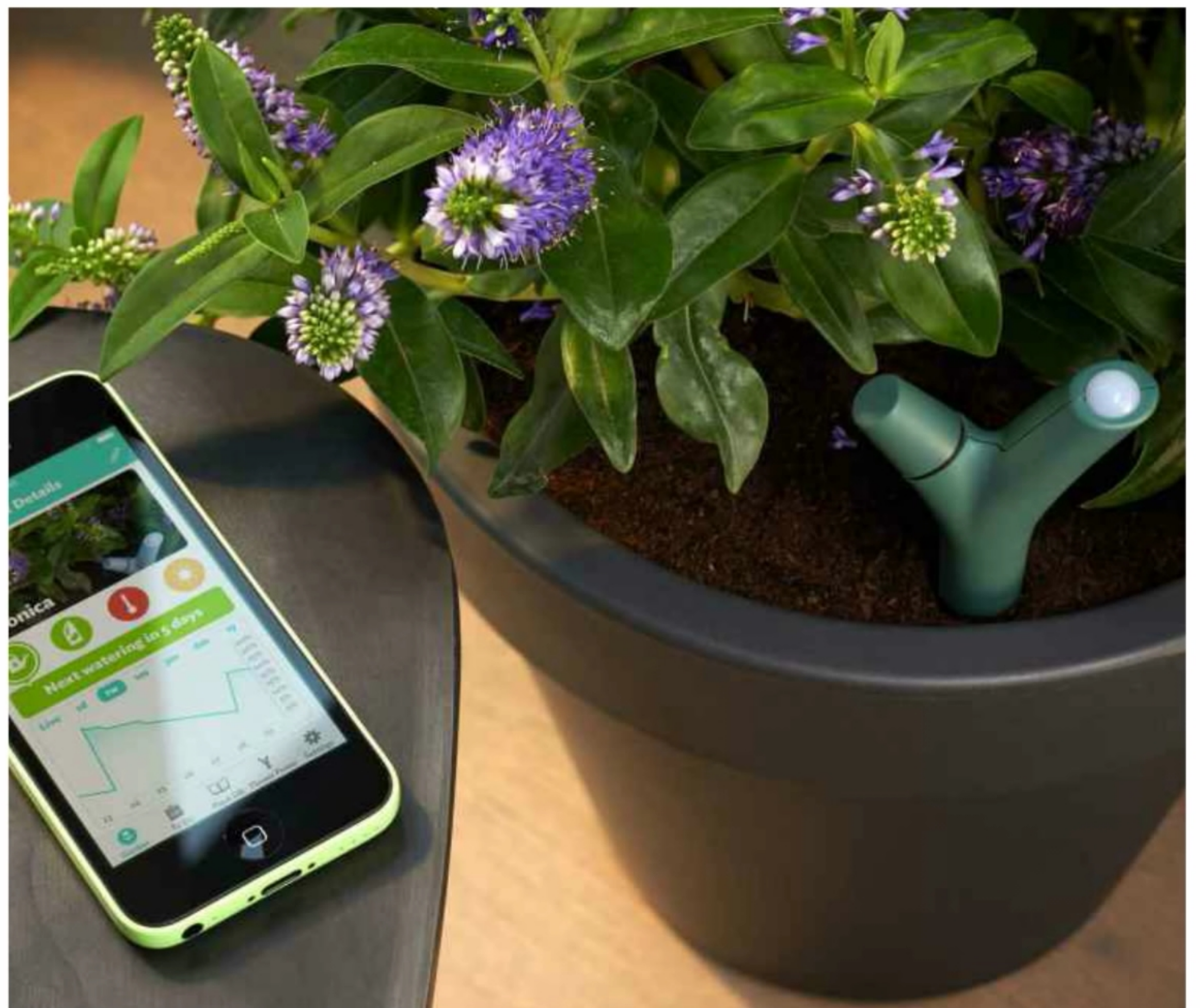
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Parrot Flower Power

\$59.99

parrot.com

Neglect your garden no more with this sensor “planted” in the soil near your indoor or outdoor plant. It monitors soil moisture, fertilizer, ambient temperature, and light exposure, and displays the real-time data on an iOS app to help you keep your plants in tip-top shape. The app’s database contains more than 6,000 plants, trees, and vegetables, and the app will alert you if your plant needs watering or isn’t getting enough light, for instance, all according to its specific needs.

10 Holiday Tech Gifts For Less Than \$100

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Photojojo Smartphone Spy Lens

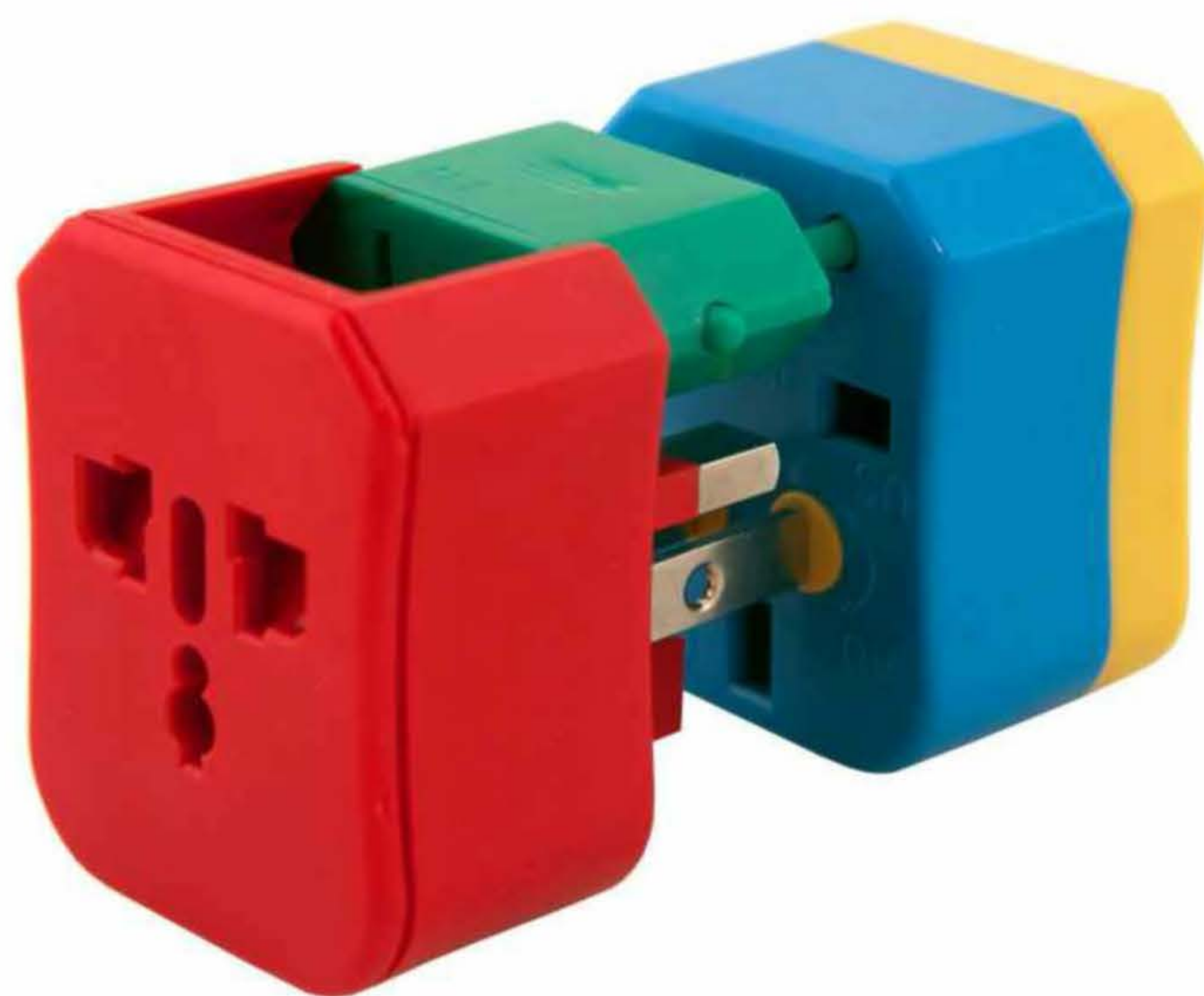
\$20

photojojo.com

Channel your inner MacGyver when you affix this magnetic 90-degree periscoping lens to your Android or iOS smartphone. Onlookers will assume you're texting when really you're shooting pictures straight ahead. Capture scenes around a corner or shoot your succulent supper without climbing onto the table thanks to the lens' 360-degree swivel. High-quality glass and a mirrored interior maintain beautiful photo quality on the DL.

10 Holiday Tech Gifts For Less Than \$100

BY MEREDITH POPOLO



Flight 001 4-in-1 Travel Adapter

\$25

flight001.com

“Four plugs, one adapter, 150 countries!” touts the maker of this four-in-one adapter. The red, yellow, green, and blue plug corresponds with the JA/C Ready Adapter system, a map that colorfully indicates which plug combination to use in a given country. Perfect for globe-trotting techies, it makes sucking power from a foreign country easier than ever.

10 Holiday Tech Gifts For Less Than \$100

BY MEREDITH POPOLO

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Satechi Smart LED Desk Lamp

\$99

satechi.net

You haven't seen a lamp this cool since you plugged in your first lava lamp. You can set it to one of four modes and brightness levels via touch-screen controls. Select Reading Mode for light levels that stimulate concentration and reduce eye strain, or Study Mode to increase attention and concentration. Relaxation Mode soothes you and Bedtime Mode helps lull you to sleep. The flexible, energy-efficient design also includes a rear USB port to charge your devices.

10 Holiday Tech Gifts For Less Than \$100

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Bonzart LIT Digital Camera

\$39.99

acgears.com

It's a toy camera, no doubt, but a fine one. Smaller than a deck of cards and about one-third of the weight, it has a 3-megapixel CMOS sensor, a fixed focal length pinhole lens, and a 1.44-inch color LCD display. It also sports some surprisingly fun features, including a filter menu that lets you tint your photos in black and white, sepia, negative, or even red, blue, or green. You can set resolution up to 2,048 by 1,536 pixels and also adjust white balance.

10 Holiday Tech Gifts For Less Than \$100

BY MEREDITH POPOLO

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Blue Piston Wireless Rechargeable Speaker

\$49.95

logiix.net

Share your impeccable taste in music with all your friends by using this brushed-aluminum Bluetooth speaker. Despite its being about the size of a small Pringles can, this speakerphone is surprisingly powerful, featuring built-in noise reduction, a wireless speakerphone, and a super bass experience. It's available in gunmetal, lime, pink, purple, turquoise, black, and red.

10 Holiday Tech Gifts For Less Than \$100

BY MEREDITH POPOLO

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Just Mobile AluPocket

\$29.95

usa.just-mobile.com

Power outlets aren't always positioned in the most convenient places. Some hover just above the ground and others are confusingly high on the wall. If you need to charge your iPhone but there's no surface nearby on which to rest it, pop it into this wall mount, which has a cable slot and connector recess, and can be affixed to any flat surface using glue-free tape.

10 Holiday Tech Gifts For Less Than \$100

BY MEREDITH POPOLO

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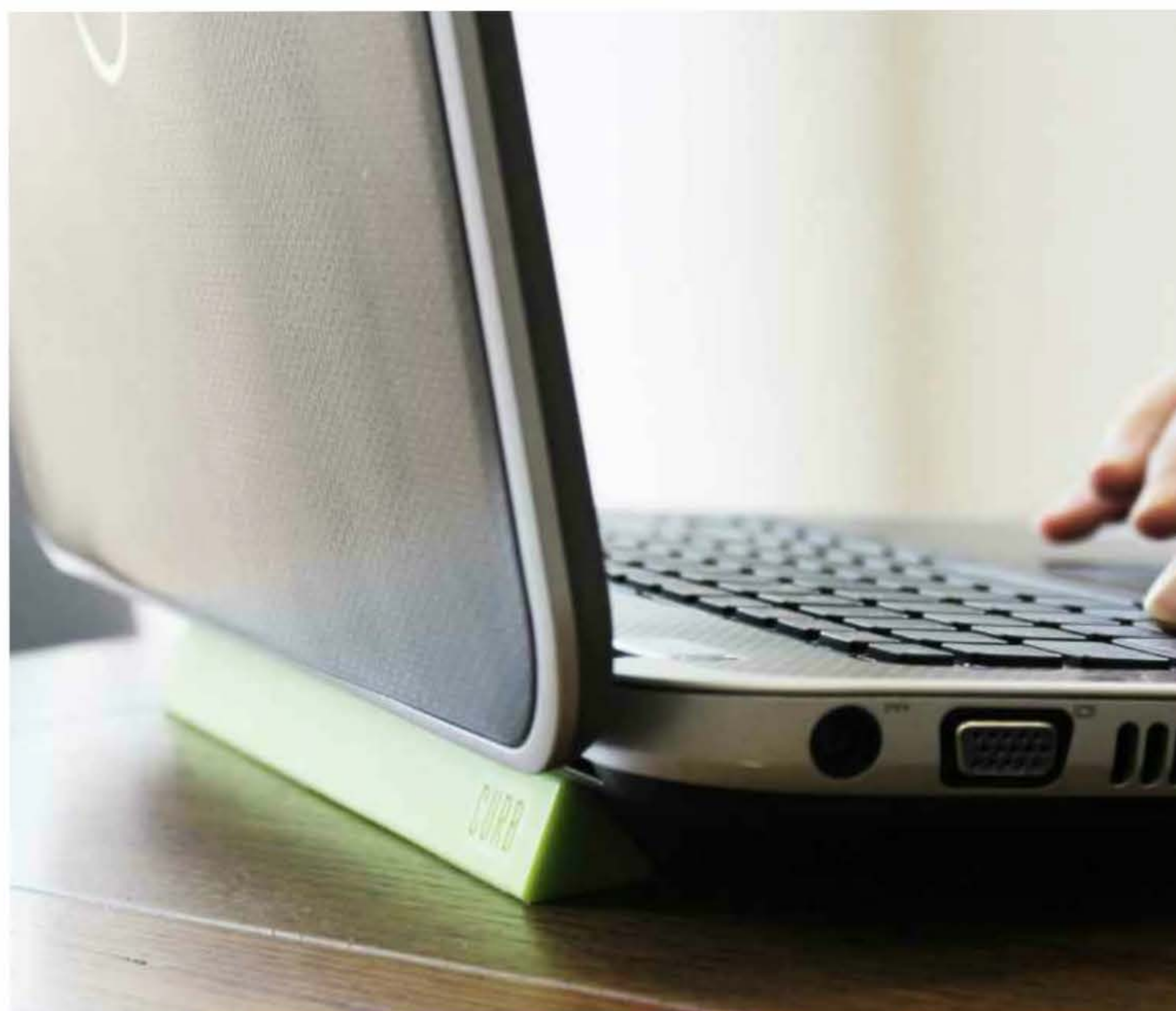
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Curb

\$16.99

thinkbym.com

If you've ever lost a paper or presentation due to an overheating laptop, you'll find comfort in Curb. The silicone triangular bar props up your laptop enough to increase airflow under the machine, cooling it and also preserving battery life. The sleek solution works with laptops of all sizes and is available in an assortment of colors including white, blue, pink, lime green, dark gray, light gray, black, and "believer green."

10 Holiday Tech Gifts For Less Than \$100

BY MEREDITH POPOLO

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Elroy Bluetooth Earbuds with Magnetic Docking System

\$79.95

meetelroy.com

Tired of tangled wires? Elroy cuts out the lower two-thirds of the problem with a wearable Bluetooth device. The Kickstarter-backed gadget uses an activated magnetic attachment system so your earbuds affix to the docking plates on the side of Elroy; you can answer phone calls, hang up, and pause music by simply docking or undocking the earbuds. It works with all Bluetooth-enabled devices and charges via USB.

WHAT'S NEW NOW

HOLIDAY GADGETS

Luxury Gifts We Love

BY CHANDRA STEELE

RICOH THETA

Want to capture the whole world in the camera in your hands—or at least your view of it? With the Ricoh Theta, one touch is all it takes to get your surroundings in a 360-degree single shot with a super-fast shutter speed. Two hemisphere-shaped lenses do the work for you, and associated iOS and PC or Mac software makes it easy to view and share your photos. The Theta's 4GB of storage will hold about 1,200 images.

\$399.95

theta360.com



WHAT'S NEW NOW

HOLIDAY GADGETS

Luxury Gifts We Love

BY CHANDRA STEELE



LIBRATONE LOOP

The Libratone Loop gets around: It's wireless, with AirPlay, DLNA, and proprietary PlayDirect software that's Wi-Fi-independent—and it surrounds a room in sound with tweeters and midrange drivers that direct music throughout the space. The stylish shape of the Loop gets covered in interchangeable Italian wool pullovers available in a variety of dynamic colors. You can hang the Loop on the wall or place it on any flat surface by using the included stand.

\$499.95 shop.libratone.com



WHAT'S NEW NOW

HOLIDAY GADGETS

Luxury Gifts We Love

BY CHANDRA STEELE



RECON JET

If Google Glass is too fragile for your athletic lifestyle, the sports-oriented Recon Jet heads-up display is made for adventure. It captures the action with an HD camera and microphone, wirelessly connects to your wearable fitness tech, and has its own built-in GPS and sensors. The interchangeable battery means you don't have to slow down to power up, and its polarized lenses let the Recon Jet double as sunglasses.

\$599 jet.reconinstruments.com



WHAT'S NEW NOW

HOLIDAY GADGETS

Luxury Gifts We Love

BY CHANDRA STEELE



CLOUD LAMP

Designer Richard Clarkson has brought the outdoors in with some cotton, a cloth cord, and an Arduino board that controls the weather. The Cloud Lamp, which made its fluffy debut at the Maker Faire this fall, is a motion-controlled nightlight and speaker, and an atmospheric way to light things up and set a mood. Want to create an entire sky? Get a set of six networked clouds for \$4,100.

\$960 shop.richardclarkson.com



WHAT'S NEW NOW

HOLIDAY GADGETS

Luxury Gifts We Love

BY CHANDRA STEELE



FARADAY PORTEUR

This bike may look like a vintage Euro dream but it has a modern secret: It's electric. The company says it likes to keep people guessing about where it's hidden the batteries in the charming frame but happily touts that charging time is under an hour. One thing you won't be in the dark about is how to light your way at night—the bike has high-powered integrated LED front and rear lights.

\$3,500 faradaybikes.com



Opinions

SEBASTIAN ANTHONY

MITCHELL HALL

IBRAHIM ABDUL-MATIN

**Technology's
blindness is a
double-edged
sword.**

SEBASTIAN ANTHONY

THE MILITARY'S CHILD-SOLDIER
FUTURE

The Military's Child-Soldier Future

In his book *Ender's Game*, which was recently made into a movie, Orson Scott Card envisioned a not-so-distant future where intergalactic war is waged and won by child soldiers. But unlike today's idea of child soldiers, where military regimes equip children with rifles and send them off to war to kill and be killed, in *Ender's Game* the battles occur inside a simulator, where no physical harm can befall the kid. It doesn't take a genius to see the parallels between this and the U.S. military's move toward unmanned aerial vehicles (UAVs) and combat robots that are controlled by soldiers hundreds or thousands of miles away from the battlefield. But wouldn't it be even more efficient for the military to instead use children to control its killer arsenal of unmanned drones and robots?

TECHNOLOGY IS BLIND

One of the defining—and most powerful—aspects of technology is that it's completely impartial. An iPad, for example, doesn't care if you're three or 60 years old, male or female, white or black—as long as you have the manual dexterity to use the touch screen, every single one of the iPad's capabilities are compelled to do your bidding.

But technology's blindness is a double-edged sword. The Internet lets anyone seek information and resources that can dramatically improve their quality of life—but it also grants access to bomb-



Sebastian Anthony is the senior editor of ExtremeTech.com, where he regularly writes stories about computing, space, and emerging technologies.

making guides and other subversive materials that might have a detrimental effect on children or other easily influenced groups of people. Sometimes, because technology is so terrifyingly unprejudiced, we build safeguards to prevent such situations—but in most cases, technology, like information, strives to be free. When safeguards are implemented, you can almost guarantee that someone somewhere has created a tool that will remove those safeguards cheaply and easily.

MECHANIZED CHILDREN

The military, of course, isn't so fussed with safeguards. Society generally tries to impose some kind of ethical framework upon the military so we can sleep soundly at night, but at the very best the military only conforms to these pesky requirements when it absolutely has to. For the most part, the military acts first and does whatever it takes to keep its country safe, and asks or answers to questions later.

Which leads us neatly onto UAVs and other remotely or autonomously controlled weapons, such as robot soldiers. In recent years there has been a massive push by military and law enforcement toward unmanned weapons of war and surveillance. At their most simple, these UAVs are just surveillance drones that can provide valuable intelligence that might be difficult (read: dangerous) to obtain with a human-piloted vehicle. UAVs can also be outfitted with weaponry, if blowing up enemy combatants is more your kind of thing.

UAVs can be autonomous, or they can be controlled by soldiers on the ground. In the case of the military, these soldiers are usually situated at some kind of forward base, where they use a



**The military
acts first and
does whatever
it takes to keep
its country
safe.**



ground control station (GCS) and the Common Data Link wireless protocol to remotely control the UAV. The GCS is essentially the aircraft's cockpit, but with fewer knobs and more screens. Ultimately, control of the UAV comes down to the soldier's joystick and keyboard inputs.

As we all know, children are more than capable of watching a video feed, assimilating the displayed information, and reacting by controlling a joystick or hitting some buttons. I have just described a video game—and, in essence, that's exactly what the UAV's GCS, like Ender's simulator, is. There is no technical reason that a child couldn't use the GCS to blow up America's enemies.

There's also no reason that the GCS should be limited to just UAVs. Over the last few years, DARPA and contractors like Boston Dynamics have clearly been working toward a robot army. There's the BigDog mule, the WildCat fast attack squad, and of course the real-world Terminator, Atlas. For now, only BigDog is close to military deployment (carrying supplies for human soldiers), but it's only a matter of time until the U.S. military fields an all-robot army.

Unless it's autonomous (which is unlikely), this army will be controlled by hundreds of soldiers sitting in front of computers. For the soldiers, war will be a lot like a video game—and kids are really good at video games.

Worryingly, it makes a lot of sense to have children control the army of the future. They have faster reaction times than adults, and they're generally capable of learning new skills and tasks more quickly. Most importantly, children aren't fully psychologically developed, and so they generally lack some of the more complex mental processes, such as ethics and critical thought.



There is no technical reason that a child couldn't use the GCS to blow up America's enemies.



Whereas Private Smith might question whether it's really the right thing to put a bullet between the eyes of an unidentified target, it is relatively easy to get a child to wield a robotic weapon of death without flinching.

Even more terrifyingly, the military of the future might, as in *Ender's Game*, not even tell child soldiers that they're remotely controlling robots on a battlefield. Instead, the military could create a glorified Call of Duty clone where—unbeknownst to the child—the first-person view is actually being transmitted in real time from a battlefield robot, and the on-screen enemies are avatars of real-world terrorists. As we know all too well, children wouldn't think twice about mowing down hundreds of enemy soldiers in such a setup.

As I wrote this story, I experienced an odd sensation: growing dread. I've written a lot about the future of technology, but this one had a much stronger effect on me than usual. I think it's because, for once, I'm writing about a not-so-distant future that can, and probably will, happen. We're not talking about realistic android prostitutes or space elevators that rely on technology that hasn't been invented yet. The military could field a battalion of child-controlled killer robots *today*.

sebastian_anthony@pcmag.com

“

It is relatively easy to get a child to wield a robotic weapon of death without flinching.

”

The Great American Phone Insurance Rip-Off

Recently I woke up from a solid night's sleep and stretched for my Samsung Galaxy Nexus, only to find a black screen blankly staring back at me.

I repeatedly pressed the power button—nothing. I removed and replaced the battery—nothing. I inserted a different battery—nothing. I removed and replaced the SIM card—nothing. Starting it while connected to the power cable? Once again, *nothing*.

So I made my way to Verizon for help. “It’ll be fine,” I assured myself. “If they can’t fix it and it’s no longer under warranty, this is exactly why I pay my \$5.18 a month for phone insurance.”

Not so much, as it turns out. Unbeknownst to me, phone insurance in America is a large, fast-growing, and lucrative market. If you want to know what makes it so lucrative, do as I did and start by reading the fine print of your policy. Verizon claims to offer to “replace your device as soon as the next day, [and] avoid paying up to the full replacement cost when your device is lost, stolen, damaged, or experiences a post-warranty defect.” Guaranteed replacement with a new device sounds like a pretty good deal, right? Read on to the slightly smaller text, though, and you see, “It is our goal to provide you with a replacement device that is the same color and has the same features, but this cannot be guaranteed. If the same make and model you claim is not



Mitchell Hall is the managing editor of features at PC Magazine. He has previously worked at Minyanville.com, EmergingMoney.com, and other publications.

available, a similar make and model will be substituted. Your replacement device could be new or remanufactured.”

It goes on. “The most we will spend, for any one occurrence to repair or replace Covered Property due to a covered claim is either four hundred dollars (\$400) if your device is found in Schedule A or one thousand five hundred dollars (\$1,500) if your device is found in Schedule B, C, D, or E.”

You could be forgiven for thinking \$400 sounds pretty good for your \$200 smartphone, until you remember the unsubsidized replacement cost of any high-end smartphone usually runs between \$600 and \$1,000.

As it turns out, Verizon isn’t even providing the coverage; it is marketing and reselling insurance from a low-profile Nashville, Tennessee–based company called Asurion. Asurion says if a customer’s phone is lost, stolen, or rendered incapacitated it will try to send a replacement within 24 hours. The big four U.S. wireless carriers offer its insurance exclusively, and another 14 carriers around the world also relabel and market Asurion’s “white label” insurance.

According to a November 2010 *BusinessWeek* article, Asurion claims that “more than 20 percent of the 293 million mobile customers in the U.S. pay Asurion to protect their handsets.” Of course many more Americans have bought mobile phones in the last three years, and given that more of them are smartphones (and thus more likely to need insurance), we can assume that millions more Americans now pay between \$5 and \$12 per month to Asurion, depending on their model and coverage plan.

If you do some back-of-the-envelope math, during 2010 Asurion was raking in monthly revenues of around \$500 million just in America.



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BusinessWeek estimated its profit as between \$98 million and half a billion per annum. Again, those figures must be higher now.

After doing some digging, the insurance I thought would cover the full replacement cost of a new Galaxy Nexus was sounding less and less like the no-hassle experience Verizon's selling pitch had suggested.

I figured I should go into a store to see if my lifeless phone was fixable. It wasn't. "Looks like your charging pin is corroded," the dour Verizon rep offered after a cursory two-minute inspection. Is there anything you can do for me? "Afraid not." What's to stop me just going to T-Mobile and getting a new phone from them? "Nothing really." After bathing in the warm glow of this above-and-beyond customer service, I decided it was time to go home and file my insurance claim.

And then the real fun started. It turned out that Samsung Galaxy Nexus phones had only just recently ceased production, so I would have to settle for a replacement. I figured I could handle LG's Google Nexus 4—surely the obvious replacement as it was the successor to the Galaxy Nexus—for six months until my contract was up and I could upgrade to a new phone of my choosing. Like most Nexus owners, I specifically selected a Nexus because I don't want vendor or carrier bloatware; I like having Google's showcase model that best integrates its software with the latest hardware, and prize receiving Android updates promptly.

Instead, I was offered the choice of an LG Spectrum or an LG Spectrum 2. Though you could argue the specs are broadly comparable to a Nexus', you couldn't argue the LG was the top-of-the-line Android device of its time, unlike the Galaxy Nexus. It gets better: My replacement



The insurance I thought would cover the full replacement cost of a new Galaxy Nexus was sounding less and less like the no-hassle experience Verizon's selling pitch had suggested.



would be a *refurbished* Spectrum or Spectrum 2. The pièce de résistance? I would have to front a \$99 deductible for a second-hand phone that goes for \$100 on eBay—and I'd already paid Verizon/Asurion \$98.42 in monthly premiums.

Ladies and gentlemen, I give you the secret to Asurion's lucrative business model.

My experience is far from unusual. There are endless pages of complaints from Verizon, Sprint, AT&T, and T-Mobile customers who have all discovered that the peace of mind they thought they had wasn't so peaceful. Consumer Affairs rates Asurion satisfaction at one star out of five.

My takeaways from this experience: I probably won't buy phone insurance again, at least not from Asurion. I look after my stuff, and out of six phones I haven't ever lost or significantly damaged one (er, apart from that time at the beach I dove into the ocean complete with the Nokia N95 I had forgotten was still in my pocket).

If you have a habit of dropping or losing your phone, then Asurion insurance may be worth it. But you can also try insuring your phone under a "personal articles policy" from a regular insurance company, which could cost half of what Asurion charges. You often won't even have to pay a deductible, and after filing a claim you'll simply receive a check to use when purchasing a replacement. This usually means you get to choose which phone you replace your old one with; at the very worst you'll get the same model back—unlike with Asurion. As always though, make sure you understand how the policy works before you sign, and make sure to check whether there's a deductible, what losses are covered, and how your phone will be replaced.

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**I probably
won't buy
phone
insurance
again, at least
not from
Asurion.**



How the Tech Sector Can Help the Civic Sector

Calling all analysts, code developers, software testers, and project managers: Society desperately needs your collaborative skills to help our communities. Most community and civic groups don't understand how government works, lack funding, and must create programming with limited resources. They also have difficulties holding onto talent and meeting the needs of the communities they serve. They could use an infusion of people used to operating on tight deadlines and dealing with limited budgets and dwindling human resources.

This idea goes back to 2001 when, in the wake of 9/11, I was working on a project to map community organizing and activism in the United States. I remember walking into the ground-floor apartment of a coder named David Jacobs. It was my first time interacting with a coder. His place was piled high with records and CDs and he worked like—and was in fact—an artist.

Over the years I came to consider developers and artists one and the same; they could be a bit moody at times, but they created brilliant work. You had to coddle them but also treat them with deep respect because your idea rested on the relationship in that moment.

Coders work differently now because everything requires their attention. There is a digital strategy, a mobile strategy, internal operations, HR, and everything in between. A



Ibrahim Abdul-Matin is a consultant with The Frontier Project and the author of *Green Deen: What Islam Teaches About Protecting the Planet*.

strong technology team is arguably as central to an organization as its brand and identity. It used to be that the “webmaster” worked in binges of creative bursts and output fueled by Diet Coke and pizza. Or if they were like Jacobs, they ate salads, drank water, and dabbled in yoga. Either way, you gave them requirements and wireframes or just a problem to solve, and they would work their magic.

Now that coders are vital to every enterprise, they have become incredibly diverse and, in some cases, high-functioning in the work sector. The fact that their work touches almost every aspect of an organization is critical; they do not think of parts anymore, but in terms of a whole company.

We talk a lot about what the Internet can do and about the brainiacs who created it, but we rarely talk about the changes that have taken place in the way we work in the process. Yes, we have teams whose members are dispersed all over the world, but how do these teams collaborate despite language and cultural barriers and the lack of face-to-face cues?

The change is profound. You can call it a transformation from a waterfall model, which is rooted in industrialization and churning out products in a traditional factory, to a nimble and distributed approach where multifunctional teams play multiple roles and adapt to changes in real time.

So what can we do? If you are an analyst, code developer, software tester, or project manager who has been using agile and scrum methodology, you actually have muscle memory the world needs to help manage more than just products, software, or the latest app.

I love Winston Churchill’s cynical quote that



**Now that
coders are vital
to every
enterprise,
they have
become
incredibly
diverse.**



says, “Democracy is the worst form of government, except for all the others.” It highlights the messiness of what happens when people get together to accomplish something. Interestingly, in countries like America, India, and the United Kingdom, there are many of these messy, unorganized, and critically needed organizations working hard to make our democracies effective. These “frontlines” of our democracy I define as our co-op and condo boards, neighborhood associations, religious groups, youth groups, sports leagues, and even hunger and anti-poverty programs. All of these organizations could use seasoned technologists as part of their team to share what they know of working in diverse teams and pushing through challenges to get something done.

The bottom line is that all of our organizations need an infusion of this “new way to work” and the skilled professionals immersed in it need to help share it beyond the tech world.



**All of our
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Reviews

CONSUMER ELECTRONICS

Apple iPad Air

Sonos Play:1

Google Nexus 5 (Unlocked)

Samsung Galaxy NX

HARDWARE

Microsoft Surface 2 (32GB)

**Asus Transformer Book
T100TA (64GB)**

Apple MacBook Pro (15-inch)

Samsung Ativ Book 9 Plus

SOFTWARE

McAfee LiveSafe



Apple's Thinner, Lighter iPad Is Heavy on Features



Slimmer, lighter, and faster than last year's model, Apple's iPad Air is a full-fledged computer that's now so thin and light that you won't even notice it's in your bag. Like every iPad before it, it's striving to become the magic book with eternally rewriting pages that seers and science fiction writers have predicted for millennia. The iPad Air isn't a radical break from the iPads before it. It doesn't watch your gestures or read your fingerprint. But its build gets it that much closer to the dream of the sheet-of-paper-thin form factor where the hardware disappears, and all that's left is magic.

Apple iPad Air

\$499-\$799 (Wi-Fi);
\$629-\$929 (Wi-Fi +
Cellular)



PHYSICAL DESIGN AND WI-FI

Considerably smaller and lighter than any previous non-mini iPad, the Air measures 9.4 by 6.6 by a razor-thin 0.29 inches (HWD), with a much slimmer bezel on the sides of the screen. This iPad also has a flat back, not a convex one like on previous models. It comes in Silver (with a white front) or Space Gray (with a black front). At almost exactly a pound for the Wi-Fi model and a hair heavier (1.05 pounds) for the LTE version, the Air isn't feather-light. But it's airy enough that throwing it into your bag and carrying it all day doesn't faze you, when it might have with older iPads.

Otherwise, this tablet looks and works a lot like an iPad.

The 9.7-inch 2,048-by-1,536 IPS LCD touch screen is bright, but rather reflective. At 264ppi, it's at the limit of my eyes' ability to distinguish the pixels. It doesn't quite match 2,560-by-1,600 super-sharp tablets such as the Samsung Galaxy Note 10.1, but I don't think anyone will be dissatisfied with the sharpness here.

The new MIMO antenna improves Wi-Fi reception with the right router. (Yes, Apple's AirPort Extreme fills the bill.) Against an 802.11n Meraki MR16 router connected to our corporate line, I was able to get 30-33Mbps down on the Air versus only 17-18Mbps down on last year's iPad. That will make a big difference when downloading movies or large files; many high-end games are now over a gigabyte.

Both the Wi-Fi and cellular iPads pack Bluetooth 4.0; only the cellular model, which works on every U.S. carrier interchangeably depending on your SIM card, includes a GPS radio.

Apple says the Air should last up to 10 hours on Wi-Fi. That's on a 32.4Wh battery as compared with the previous iPad's 42Wh cell. In our battery test, which plays a stored video with the screen turned to max brightness, the Air lasted 6 hours 14 minutes. (The difference between our result and Apple's estimate is the screen brightness setting; halve the brightness, and

Apple iPad Air

PROS Impressively slim, light. Fast. Very good camera. Top-notch app selection. LTE version works with every U.S. carrier.

CONS Expensive.





you'll easily hit that 10 hour mark.) That's 37 minutes longer than the third- and fourth-generation iPads, which had a larger battery, but not as long as the Samsung Galaxy Note 10.1, which scored 7 hours 37 minutes on the same test.

THE A7 PROCESSOR AND PERFORMANCE

Apple's A7 processor, running at 1.4GHz here, is the most efficient on the market, if not quite the fastest. But its performance is excellent. On the iPad 2 and 3, iMovie in iOS 7 feels genuinely gummy; on the Air, it's effortless. High-end games such as Asphalt 8 and Infinity Blade III render beautifully.

Augmented-reality apps update their screens in real time. Yes, the Air has only 1GB of RAM on board, but iOS doesn't tend to need a lot of RAM because it doesn't do much multitasking.

We ran a range of cross-platform benchmarks and some iOS apps to illustrate how the Air compares with other top tablets. For Web browsing, the combination of the A7 and Apple's Safari browser is killer: The iPad outmatched every other tablet we've tested on the Browsermark Web browsing benchmark. On the GFXMark benchmark, which gauges gaming performance, the A7 pulled 49 frames per second (fps) on screen, which competes well with, but doesn't top what you see from Nvidia Tegra 4 and Qualcomm Snapdragon 800 tablets. On the Geekbench processor benchmark, quad-core processors like Qualcomm's Snapdragon 800 expectedly beat the dual-core A7—Geekbench scales more smoothly with more cores.

If you're just comparing the Air with other iPads, of course, there's no contest. I got 13 percent higher Browsermark results than the fourth-generation iPad,

and 35 percent better than both the iPad 2 and 3. Graphics frame rates were more than double those on the iPad 2 and 3. A short 720p movie exported from iMovie in 41 seconds, which is 50 percent faster than on the fourth-gen iPad and three times as fast as on the earlier models.

CAMERA AND MULTIMEDIA

The iPad's 1.2-megapixel, 720p front camera works well for video calls, and the 5MP, 1080p rear camera plays a role in scanning, shopping, and augmented-reality apps. The Camera app is notoriously simple, with your options limited to HDR, Panorama, Square, or Standard. Samsung's Galaxy-device kitchen sink camera this ain't.

The main camera is quite sharp, with a super-quick shutter and good low light performance. It blows out bright skies, which the HDR mode didn't fix, and shutter speeds flirted with blurring moving objects on a cloudy day in my tests. But take it out of the realm of snapshots and into computer vision, and it'll be able to recognize things well, especially with an excellent, fast-focusing macro mode that excels at reading text. Video shot in 1080p ratcheted its frame rates down a bit in lower light, from 30fps outdoors to 27fps inside.

The front camera takes 1.2MP still shots and records 720p video at 30fps in good light and a very grainy 24fps in low light. Most notably, like all iPad cameras (but unlike, say, the Kindle Fire's) it's designed to work with the iPad in portrait mode, and the angle and focal length are perfect for video calling in that orientation. If you hold your iPad in landscape mode, you have to angle it oddly to get your face in the picture.

The iPad Air comes in 16, 32, 64, and 128GB models, starting at \$499 and adding \$100 each time you double your capacity. The 128GB tablet has 115GB free for your files. Multimedia playback is the same here as with other Apple mobile devices. Natively, the tablet plays

FAST FACT

The iPad Air comes with Apple's iWork suite, which includes the Pages word processor, Numbers spreadsheet, and Keynote for presentations.





**ONE SIZE FITS
(ALMOST) ALL**
With good performance, strong media functionality, and of course its incredible selection of available apps, Apple's super-thin iPad Air offers the best combination of price and features for most people.

anything you sync over from iTunes, whether via USB cable or Wi-Fi; there are (paid) third-party apps to handle music and video formats that the integrated players don't support. You can throw your video over to a TV using a Lightning to HDMI adapter cable (\$49) or wirelessly with Apple TV.

CONCLUSION

Because of Apple's simple interface and its devotion to its developer community, the iPad is America's default tablet. If you have an iPad 1 or 2, you should definitely upgrade—the Retina display makes their screens look leaden, heavy-handed, and grainy, and there's impressive power under the hood. Windows Bay Trail tablets such as Asus' Transformer Book T100TA will serve you better for getting work done; Amazon's simple Kindle Fire offers better support; the Galaxy Note 10.1 appeals because of its pressure-sensitive pen; the Sony Xperia Tablet Z can function as a universal remote for your HDTV and Blu-ray player; and the Barnes & Noble Nook HD+ can get you online, reading books, and playing games for only \$149.

Whereas every other tablet has a specific place, the iPad is everywhere else. The iPad Air won't please everyone, but it will please most people. As with the iPhone 5S, Apple is trying to make both the hardware and the OS step into the background here, so you can better enjoy the apps. The best iPad, Apple implies, is one that disappears.

SASCHA SEGAN

**Sonos Play:1**

\$199



This Small Wi-Fi Speaker Puts Out Big Sound



Sonos has been a big name for wireless, multi-room audio for nearly a decade. It's typically made expensive hi-fi products, with self-contained bundles that feature multiple components for equipping an entire house with audio. Sonos is now stepping into the affordable \$200 range of wireless speakers, where usually only Bluetooth speakers like the Bose SoundLink Mini tend to dwell. The Sonos Play:1 is small enough to fit on a shelf or table but hefty enough to put out plenty of sound, and although it's neither portable nor Bluetooth it's a surprisingly good-sounding, accessible way to start an expandable, multi-room music system. This speaker is two-thirds the price of the Sonos Play:3 but offers all the flexibility and a good amount of performance.

DESIGN

The Play:1 is a chunky, slightly cylindrical block 4.7 inches wide and deep and 6.4 inches tall. With its two class D amps, 3.5-inch mid-woofer, and separate tweeter, the speaker is a hefty 4.1 pounds and definitely not intended to be portable. It's available in both black and white versions, but those colors only apply to the top of the speaker and a ring around the base. The majority of the speaker is taken up by a gray metal grille that wraps around the body. A recessed two-prong notebook power port sits on the underside with an indentation to run the included 90-degree power cable out the back. The back of the speaker holds a screw mount for wall or stand mounting and an Ethernet port for connecting directly to your router. There aren't any 3.5mm or RCA inputs to be found; if you want to play music through the speaker, you need to have it set up as part of a Sonos network. The top surface of the speaker is smooth and concave, with an indicator light, and Play/Pause and Volume Up/Down buttons sitting on a raised area above the Sonos logo on the front.

To set up a Sonos system, you need to have at least one device physically connected to your router through Ethernet. You can plug the Play:1 directly into your

Sonos Play:1

PROS Incredibly easy to set up. Affordable. Solid low-mids to highs.

CONS Bass distorts at maximum volume. Not portable. Requires a Wi-Fi network and a device with a wired connection to the router. No wired audio connections.



EASY CONTROLS

The few buttons on the top of the Play:1 make it simple to start and pause playback, and adjust the volume.



WIRELESS BUT NOT PORTABLE
The Play:1 can be placed anywhere, but because of its significant weight (more than 4 pounds) it's not especially easy to take with you when you go on trips.

router, but unless your router is placed somewhere you'll be listening this isn't a very good option. Fortunately, Sonos includes a free Sonos Bridge with the Play:1. The Bridge plugs into your router to set up the Sonos network, letting you place the speaker (and any other Sonos speakers you want to use) anywhere within range, as long as it can be plugged into a power outlet. Each Sonos device forms and extends the network, so as long as the Bridge is within Wi-Fi range (approximately 100 feet) of a speaker it should work. Additional Bridges can be purchased for \$49 each to further expand the network.

SETUP

Considering Sonos sets up its own wireless music network with multiple speaker configurations expanding the network, setup is incredibly easy (especially compared with other non-AirPlay, non-Bluetooth speakers). Install the Sonos app on your smartphone, tablet, or computer, then click on "Add Component." The prompts will tell you to press a button on the Bridge or two on the Play:1, and the app does the rest. Once the speakers are registered, you can set them for different rooms in your home through the app, and even set up two speakers as a stereo pair for a room. If you have a Sonos Playbar, you can also set up two Play:1 speakers to serve as rear channels and turn the soundbar into a surround-sound system.

Because Sonos uses non-AirPlay Wi-Fi, you need to use the Sonos Controller app to play music instead of your music player or service of choice. You can use Spotify, TuneIn, SiriusXM, Pandora, Rhapsody, Songza, and several others through Sonos Controller, and though you need to register your system with Sonos and get used to the app's layout, you can easily jump into your favorite

playlists. Apple's iTunes library is obviously not available through Sonos, and Google Play Music is similarly absent, but if you're a regular SiriusXM or Spotify listener you're covered. You can also play any music stored on your device, and mix and match tracks into custom queues for your speakers.

PERFORMANCE

It lacks in bass, but the Play:1 otherwise sounds terrific. Because it's large enough to have a 3.5-inch woofer and two amps fed by a wall outlet instead of a battery, it can get impressively loud and easily fill up a room. This mostly applies to low-mids and higher frequencies, though; our bass test track, The Knife's "Silent Shout," lacked much sub-bass punch and distorted slightly at maximum volume when the kick drum began. It didn't sound garbled, but the mid-woofer was definitely struggling with the hard thumps.

This distortion issue only came up with "Silent Shout" at the highest volume setting, and other bass-heavy sounds didn't suffer. The bass and drum intro of Blue

“

**It lacks in
bass, but
the Play:1
otherwise
sounds
terrific.**

”





Oyster Cult's "Godzilla" sounded just powerful enough to give the song its dramatic beat. Although Sepultura's "Biotech Is Godzilla" doesn't have nearly as much deep bass, the frantic drums and growling guitar came through powerfully without overshadowing Max Cavalera's vocals.

Jazz sounds good on the Play:1, and both John Coltrane's "Naima" and Miles Davis' "So What" sounded rich and full, with the clarity of the instruments cutting through the grain of the old recordings. The low end reaches sufficiently deep to make the saxophone and bass sound warm, and the treble is strong enough to bring out both trumpet and piano notes without sounding bright.

The Sonos Play:1 is the most affordable Sonos speaker yet, and a strong performer despite its weak bass. At \$200 it's one of the simplest and most affordable ways to start a comprehensive multi-room audio system, and it can be combined with other Sonos speakers for excellent stereo or surround performance. If you want a portable speaker to take anywhere, a Bluetooth speaker such as the Bose SoundLink Mini is a better choice. But if you want to build a home audio system, the Sonos Play:1 is an excellent starting point.

WILL GREENWALD



The Best Unlocked Android Phone You Can Buy



The Nexus 5 is finally here—and it was worth the wait. Thanks to Google's obvious subsidy, it is simply the best value for an unlocked smartphone on the market. Manufactured by LG, it features a host of improvements over last year's Nexus 4, including a 1080p 5-inch display, LTE (finally!), and Android 4.4 KitKat, the latest version of Google's wildly popular OS. All of that combines to make the Nexus 5 the best unlocked smartphone out there—and that's despite some rather serious problems we found with the phone's camera.

Google Nexus 5
(Unlocked)

\$349



DESIGN, DISPLAY, AND CONNECTIVITY

The Nexus 5 is incredibly well balanced to hold, and feels lighter than the iPhone 5S even though it isn't. The Nexus 5 measures 5.43 by 2.72 by 0.34 inches (HWD) and weighs 4.59 ounces. It's encased in a comfortable, rubberized soft touch housing. The left side contains a volume rocker switch, the top edge holds a 3.5mm headphone jack, and the right side has a Power button at the top and a micro SIM slot below it. The bottom edge holds a mono speaker and a microphone.

The back panel features a large Nexus logo, a small LG logo, and curiously, a raised half-inch circle for the camera sensor, with an LED flash below it. The raised portion just looks strange; it appears durable, with a thin plastic ring around the edge, so I'm not convinced it will scratch easily or anything. It's just not a clean design. But this is otherwise a beautiful device from a hardware standpoint.

The IPS display offers full-HD 1,920-by-1,080-pixel resolution, an extremely tight 445ppi, and Corning Gorilla Glass 3. The screen looks sharp, colorful, and detailed, although it's not quite as bright as the Samsung Galaxy S4's. Typing with the on-screen keyboard is super-easy in portrait or landscape mode. Google defaults the haptic feedback to be extremely subtle, which I actually liked, and I don't normally like haptic feedback much. The built-in sensor complement includes GPS, gyroscope, accelerometer, compass, proximity, ambient light, pressure, and hall effect, the latter of which detects magnetic field changes.

Google Nexus 5 (Unlocked)

PROS Killer price for an unlocked smartphone. Fast next-generation CPU. Beautiful full-HD display. Android 4.4 KitKat is better than ever.

CONS Camera performance trails Samsung, HTC. Camera app is difficult to use.



For connectivity, the Nexus 5 delivers a ton of bands, including quad-band EDGE (850/900/1,800/1,900MHz), North American WDCMA bands 1/2/4/5/6/8/19 and LTE bands 1/2/4/5/17/19/25/26/41, and global WDCMA 1/2/4/5/6/8 and LTE 1/3/5/7/8/20. There's also 802.11a/b/g/n/ac Wi-Fi on both the 2.4 and 5GHz bands, plus Bluetooth 4.0 LE and NFC. I experienced no problems when connecting to our WPA2-encrypted 5GHz test network. Outdoors in Midtown Manhattan, I saw roughly 3-4Mbps down and 3Mbps up on a series of Speedtest.net tests, which reflects the AT&T's increasingly crowded LTE network.

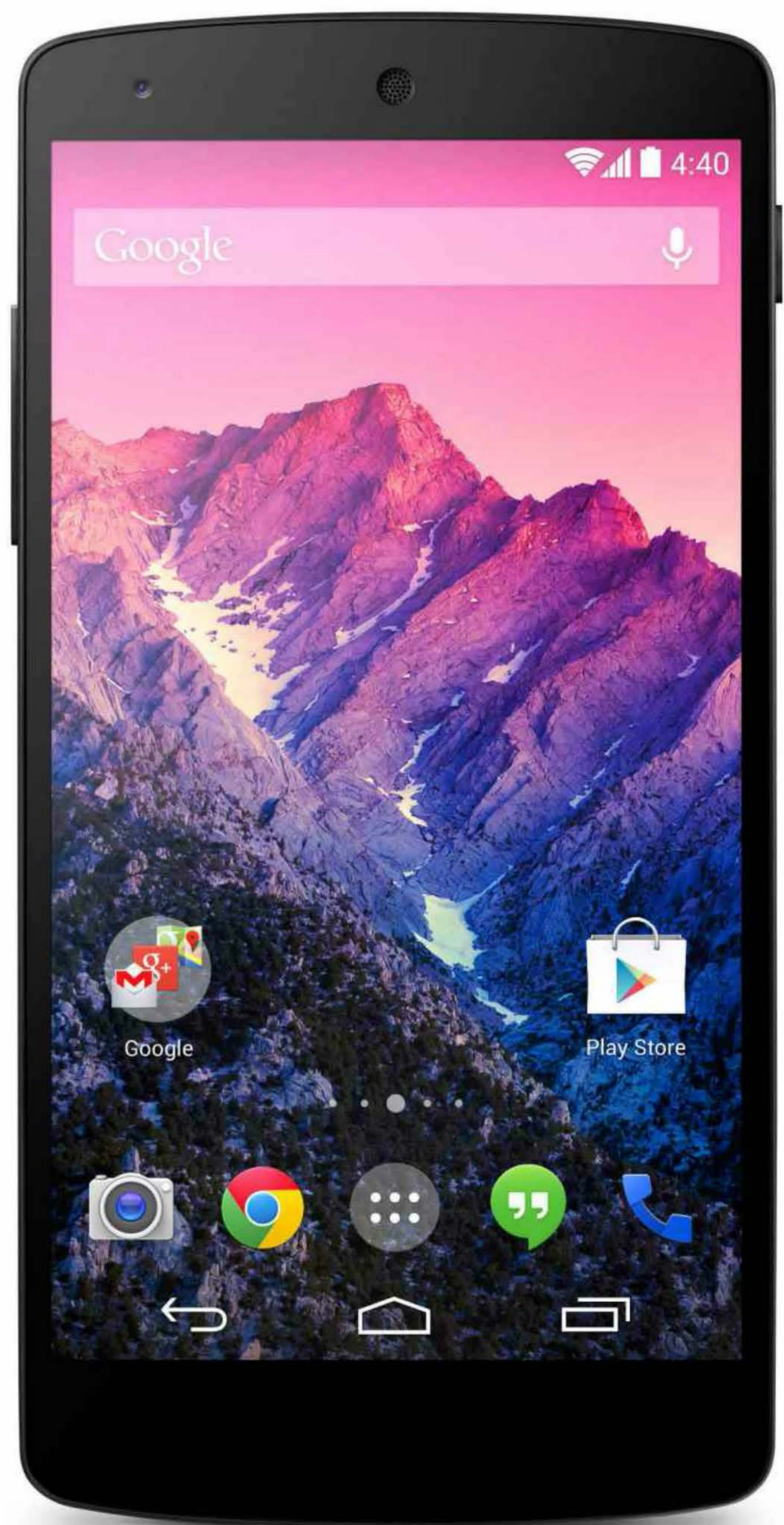
CALL QUALITY, OS, AND APPS

This is a good phone for voice calls. Voice quality through the earpiece was fantastic, with a clear, warm, loud tone that didn't vibrate the handset and yet delivered crystal-clear caller voices. Reception was solid. Calls sounded fine through a Jawbone Era Bluetooth headset, and I had no problem triggering voice dialing over Bluetooth. The mono speakerphone sounded clear and fairly loud, with just a touch of distortion at the top volume setting.

The 2,300mAh battery is non-removable; on the plus side, however, the Nexus 5 supports wireless charging out of the box.

Under the hood is a 2.26GHz quad-core Qualcomm Snapdragon 800 processor, a 450MHz Adreno 330 GPU, and 2GB RAM. This is one fast

CANDY IS DANDY
Android 4.4 KitKat is the Nexus 5's OS of choice, and it offers lots of new features that improve both usability and performance.



phone, with smooth animations, task switching, and scrolling. It's faster and smoother than the iPhone 5; everyone who complains about Android's inherently jerkier scrolling will still see some of that when browsing the Web, but not in the lightning-fast home screen or app drawer animations. This phone is also ideal for gaming: Asphalt 8 looked incredible, with smooth frame rates and only an occasional hint of slowdown during the most hectic scenes.

The Nexus 5 sports Android 4.4 KitKat, which uses the enjoyable natural-language "Okay Google"—style voice activation first seen on the Moto X; includes an immersive mode that lets an app take up the entire display; and features smart caller ID that matches unknown callers with Google Maps listings, priority contacts, and full-screen album and movie art whenever the device is locked. The Hangouts app aggregates SMS, MMS, video calls, and other conversations into one view. Android enthusiasts will appreciate the new faster multitasking, thanks to improved memory management with greater protection from apps consuming large amounts of RAM.

MULTIMEDIA AND CAMERA

Our 32GB loaner model had 26.42GB of free internal storage. Music tracks sounded clear through Plantronics BackBeat Go Bluetooth earphones and Klipsch X7i wired earphones. Videos up to 1080p played smoothly and looked sharp and vibrant in full-screen mode. My Xvid files wouldn't play, but I had no problem with other formats. Google's Play Store gives you access to millions of downloadable songs, plus thousands of movies and TV shows, all of which follow you from device to device as they're stored in the cloud.

The 8-megapixel rear-facing camera offers optical image stabilization and autofocus, plus a new HDR+ mode that combines a series of burst photos into a

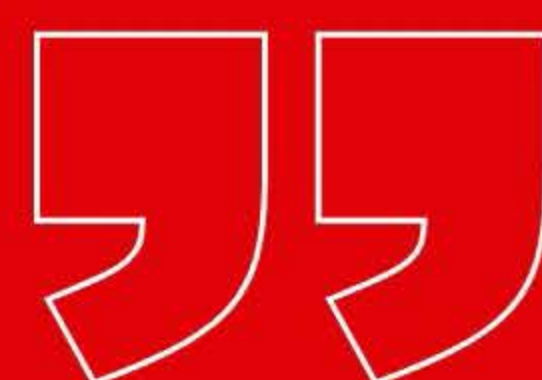
MISSED SHOT

The Nexus 5's rear-facing camera takes okay photos, but the camera and its controls aren't as polished as you'll find on other top smartphones.





**The Nexus 5 is
a beautiful
smartphone
with a
subsidized
price that's
impossible to
beat.**



single improved photo. Camera performance is good, but not outstanding; several photos outdoors had lower contrast than are customary on today's top phones, and the Nexus 5 struggled with exposure, blowing out highlights from the sky. Indoor photos had some noise and lacked detail. Test photos and 720p videos from the 1.3MP front-facing camera looked somewhat fuzzy, about halfway between VGA and a top-of-the-pack front-facing camera like the Nokia Lumia 1020's.

Worse, the camera and video controls themselves are essentially broken. To modify various settings, you swipe up from the bottom of the display, which presents a half-circle with icons depending on the mode you're in. You're supposed to swipe your finger across each one until you get to the one you want, and then swipe up to see a second half circle with the options on each submenu. But I could never get this to work reliably; testing each camera's photo and video recording was a royal pain, as I continuously stumbled around in white balance and exposure settings that I never meant to adjust. I'd hate to put up with this on a daily basis.

A STELLAR PHONE WITH SOME CAVEATS

The Nexus 5's only sticking point right now is the camera issue: Will Google fix it promptly in a firmware or software update? I can't imagine they won't, which is why I'm somewhat hesitantly awarding this phone an Editors' Choice. It's tough to come up with any real reason to buy the Play Editions of two top existing smartphones, the Samsung Galaxy S4 and the HTC One, because they cost \$250 to \$300 more. In the end, the Nexus 5 is a beautiful smartphone with a subsidized price that's impossible to beat. That leaves me with one final voice command: Okay Google, when are you going to fix Android 4.4's camera app?

JAMIE LENDINO





This Mirrorless Camera Is Better as a Tablet

In a year in which we've seen everything from affordable full-frame mirrorless cameras to the pocketable APS-C Ricoh GR, the Samsung Galaxy NX still takes the cake as 2013's most ambitious digital imaging product. The mirrorless shooter features the same 20-megapixel image sensor and processing engine as our Editors' Choice NX300, and the same 4.8-inch touch screen and Android functionality as the Galaxy Camera. But the Galaxy NX lacks the physical controls serious photographers expect, and is priced high enough to deter more casual shooters. Early adopters and Android aficionados might swoon over this one, but it's no threat to any good, high-end mirrorless camera.

**Samsung
Galaxy NX**

\$1,599.99 (body only)



DESIGN, FEATURES, AND CAMERA APPS

The Galaxy NX is based on the NX20 in terms of design. It has the same grip and EVF (decently sharp at 1,440k dots, if less than ideal in low light), but instead of loading the rear with control buttons, there's that big, sharp touch screen (921k dots). The NX measures 4 by 5.4 by 1 inches (HWD) and weighs in at 1.1 pounds without a lens—just a bit bigger and heavier than the NX20. The Galaxy NX features a deeper handgrip; its body is a bit slimmer behind, and it extends out further. The camera is comfortable to hold, though I did find myself accidentally activating touch-screen controls when I brought the camera to my eye for a shot.

There aren't many physical controls. There's a power button on the top plate, along with the shutter release and record button. And one dial on the rear of the top plate can scroll left or right (it doubles as the volume control for Android apps), or you can push it in to select functions. By default the dial toggles between shooting modes, but may be reconfigured to also adjust shooting settings or control the highlighted function at the top of the screen and toggle between active settings. The dial's functionality, however, makes it easy adjust the wrong setting, and to change exposure compensation, aperture, or ISO you need to move the dial in the opposite direction than you may expect. All other settings are controlled via the touch screen.

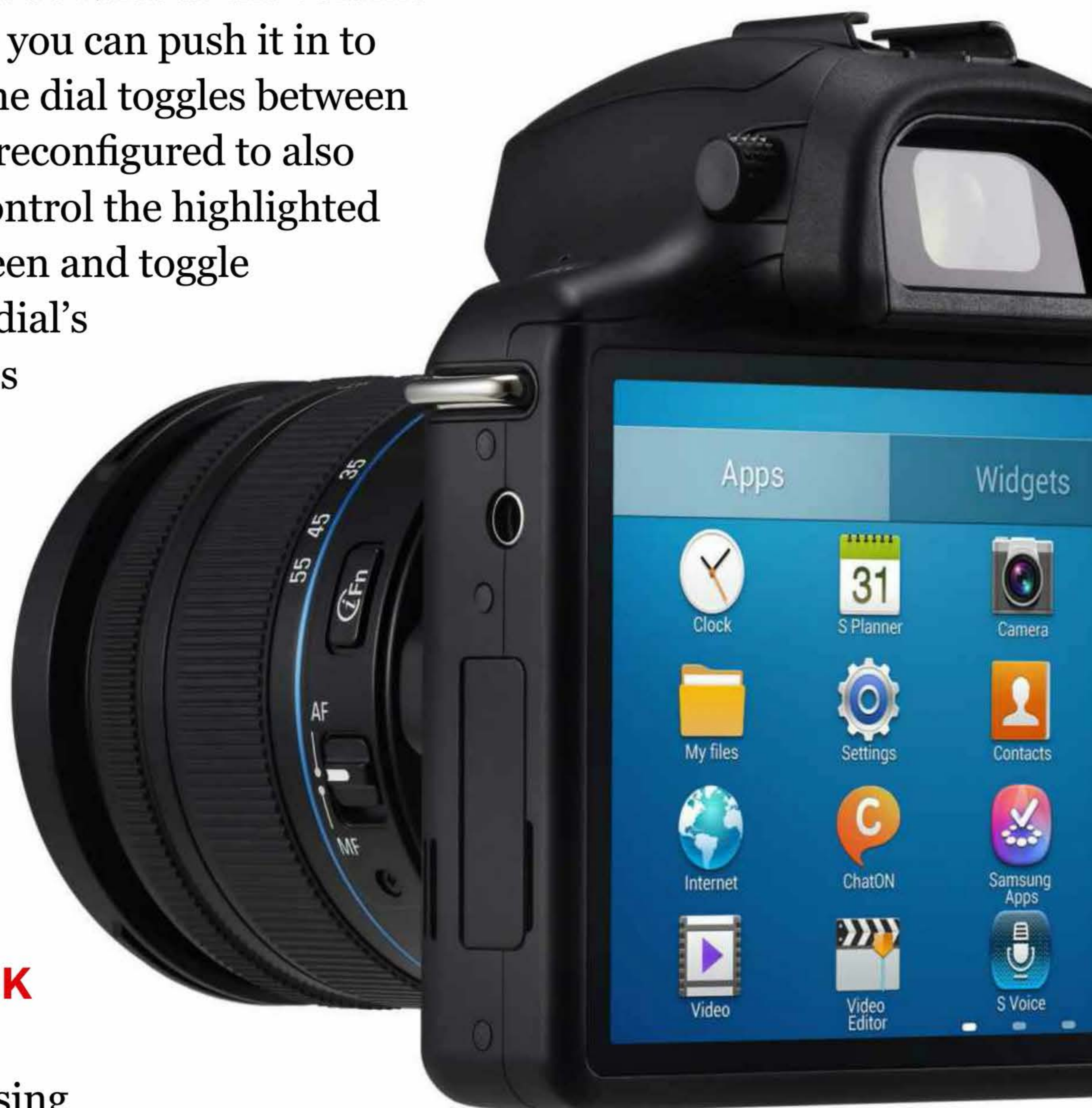
ANDROID AND NETWORK PERFORMANCE

One of the selling points of using Android as the operating system for this

Samsung Galaxy NX

PROS Impressive image quality. Cellular connectivity. Big touch screen. Minimal shutter lag. Quick continuous shooting. 16GB internal storage. Integrated EVF. Fast Android performance. Includes Lightroom software, 50GB Dropbox storage.

CONS Expensive. Minimal physical controls. Some compatibility issues with popular apps.



camera is the ability to use popular photography apps with a large sensor and interchangeable lenses. Facebook and Twitter had no issues; Instagram didn't focus properly or load images stored on the memory card; and Vine wouldn't autofocus at all and failed to post videos more often than not (though direct uploading to Facebook worked). If you use the included Lightroom application to manage your photo library, you'll notice the NX's puzzling and unnecessarily complicated file-naming structure: based on date and time, with different filenames for Raw and JPEG images. Also included is 50GB of free DropBox storage.

Like the Galaxy Camera before it, the Galaxy NX has a tablet feel, but is nonetheless a two-handed device. The NX is powered by a quad-core 1.6GHz Exynos 4412 processor with 1GB RAM; it's not the fastest setup, but it pays off with reliably brisk and responsive performance comparable to what you get from the Nexus 7 on productivity and gaming apps alike. The NX runs Android 4.2.2 and has Samsung's familiar TouchWiz styling throughout; you have unbridled access to the Google Play store, and the camera ran every app we tested (though you'll need a headphone to hear music or sound effects). There are no dialer or SMS apps, but the NX does have a SIM card slot and cellular connectivity.



Like the Galaxy Camera before it, the Galaxy NX has a tablet feel, but is nonetheless a two-handed device.



LEND A LENS

The Samsung Galaxy NX does not come with a lens, and can use any of a wide variety of models from Samsung's catalog.



LET'S (NOT) GET PHYSICAL

The Galaxy NX lacks most physical controls; you have to do almost everything with the touch screen.



Unsurprisingly, the NX features robust media support for an array of audio and video formats. Video looked sharp on the 4.8-inch display, and the NX supports H.264, MP4, DivX, Xvid, and AVI video at resolutions up to 1080p.

NETWORK CONNECTIVITY

The Galaxy NX supports LTE on the AWS, 700, 850, 1,900, 2,100, and 2,600MHz bands, and HSPA+ on the 850, 1,700, 1,900, and 2,100MHz bands. That means it'll work with T-Mobile and AT&T's LTE and 3G networks in the U.S., with support for 3G roaming internationally. The NX qualifies as a tablet, so it's eligible for T-Mobile's free 200MB monthly data plan.

We tested with a T-Mobile SIM card in New York City, where the NX pulled in 2-3Mbps down and around 1Mbps up on the carrier's HSPA+ 21 network. Wi-Fi speeds were faster. The NX supports 2.4GHz and 5GHz on 802.11b/g/n networks, and we managed 10-15Mbps downstream and 5.79Mbps upstream on our 5GHz corporate network.

CAMERA PERFORMANCE AND IMAGE QUALITY

Focus speed and burst rate are both impressive. The shutter lag is only 0.15 second in good light, and the Galaxy NX locks focus with the 18-55mm lens in about 1.3 seconds in dim light. In terms of burst shooting, the NX fared the same regardless of whether you opt for the 16GB internal memory or a removable memory card. It shoots at up to 7.4 frames per second for up to five

Raw or Raw+JPEG images, or up to 25 JPEGs. It does take a little time to write all of these images to a memory card—about 11.5 seconds for Raw+JPEG or JPEG, and 8.4 seconds for Raw.

That said, the time to first shot is just too slow for a camera of this class. The Android boot process makes the duration excessively long (26 seconds); and it takes 3.6 seconds just to bring the NX out of standby to fire your first shot, or 2.2 seconds if you're at the Android home screen. (The processes are a shade quicker when recording to internal storage rather than a memory card.) The NX300, which uses the same image sensor and processor as the Galaxy NX, is much quicker to start and capture an in-focus shot (1.1 seconds).

We evaluated the Galaxy NX as a body only, but in testing with the standard \$100 18-55mm kit lens we used with the NX300, we discovered that the NX doesn't do automatic in-camera correction of lens distortion as the NX300 does.

Imatest also revealed that the Galaxy NX keeps noise under 1.5 percent through ISO 6400, slightly better than we saw with the NX300. The corresponding Raw file does a better job with color and detail, and although it's a bit grainy, the grain is in a tight pattern that doesn't distract from the content of the image. An ISO 12800 Raw image is a bit noisier, but still impressive in quality, but the JPEG engine wipes away a bit too much detail at that ISO for my tastes. JPEGs tend to be a little bit muted in terms of color when compared with their Raw counterparts, but you can tune the color output in-camera if you prefer a more vivid image; and if you prefer less noise reduction in the

The time to first shot is just too slow for a camera of this class.



JPEG output, that can be adjusted to Off, High, Low, or Normal (the default).

The Galaxy NX records HD video at 1080p30, 1080p24, 720p60, or 720p30 in MP4 format, and low-resolution recording at 480p360, 480p30, or 240p30. The footage looks sharp, smooth, and colorful at 1080p30, and the internal mic picked up voice sound clearly. There was some noise audible on the soundtrack when adjusting the focal length of the 18-55mm lens, but there was no added audio as the camera refocused as the scene in front of it changed; the video autofocus is impressively speedy. There's a combo mic/headphone jack, a micro USB port, and a micro HDMI port, all located on the left side of the camera. The battery compartment features one slot for a micro SIM card and another for a microSD memory card. Samsung doesn't include an external battery charger with the Galaxy NX; you'll have to plug it into the wall to charge, or spend \$70 on a bundled charger and extra battery.

CONCLUSION

Despite the superb imaging library, some excellent available lenses, and good performance as an Android device, the design compromises (including lack of physical controls) made in order to accommodate that huge touch screen and the presence of Android hinder the Galaxy NX's usability as a camera. It's not tough to find a camera with similar image quality and snappier start-up time for less money—the NX300, for example, or the higher-end Olympus OM-D E-M1. The Galaxy NX is impressive for a first attempt, but most shooters looking for top-notch image quality and connectivity will be better served with a mirrorless camera or D-SLR with Wi-Fi or an Eye-Fi memory card.

JIM FISHER

EUGENE KIM



**It's not tough
to find a
camera with
similar image
quality and
snappier start-
up time for
less money.**





A Better Windows RT Tablet



When the original Microsoft Surface RT came out a year ago, it was a very good product with a well-executed design and powerful productivity tools, but it was difficult to recommend to all but the most ardent of early adopters. The new Microsoft Surface 2 offers even better productivity tools, improved keyboard accessories, a smoother Windows RT experience, and a wide selection of familiar software, including Word, Excel, PowerPoint, and now Outlook. Throw in a more elegant design, dramatically better performance, and longer battery life, and the Surface 2 reigns supreme over a minor kingdom.

**Microsoft
Surface 2
(32GB)**

\$449



DESIGN

Microsoft has made several changes to the first Surface RT's design, but the company has wisely decided to not change what works. The tablet still has the slim slab design, complete with the lightweight VaporMag magnesium-alloy construction and angular beveled edges. This time around, however, the Surface 2 is a little bit thinner (0.35 inch) and a little bit lighter (1.42 pounds sans keyboard), and the stealthy black color is now a light silvery gray that appears nearly white in certain light.

The display has also gotten an upgrade. Color quality is better, and the resolution has been upped from 1,366 by 768 to the full-HD 1,920 by 1,080. It pales in comparison to the Apple iPad's 2,048-by-1,536 Retina display, but stacked against what you'll find on other Windows RT tablets, it's a giant step up. The capacitive touch display also tracks five points simultaneously, which is enough for one- or two-handed use.

Along the back of the Surface 2 tablet is a built-in kickstand, which, unlike the one on the Surface RT, allows for two positions instead of one. The first

Microsoft Surface 2 (32GB)

PROS Faster hardware. Improved display, kickstand. All-day battery life. Includes full Office RT 2013 suite, Best of Skype package, 200GB SkyDrive storage.

CONS Keyboard covers sold separately. App selection still (relatively) small. Windows RT 8.1 is still limited, confusing.

TAKE A STAND

The stand on the Surface 2 extends outward at a wider angle, so you can easily view the screen from more positions.





position props the kickstand at the same 22-degree position seen on the previous iteration, which is perfect for use on a desk or table by a person of average height; the second position opens to 55 degrees, which is better if you're taller or want to use the tablet balanced on your lap.

Microsoft has also updated the accompanying keyboard covers, with the TypeCover (\$129.99) sporting a quieter key mechanism and the TouchCover (\$119.99) an improved array of sensors for more accurate typing. Both keyboards still conveniently connect to the excellent magnetic docking system, neither contains a battery to extend your tablet's uptime, and both are still sold as separate accessories (which mostly seems like a sneaky way for Microsoft to squeeze an extra hundred bucks out of customers).

FEATURES

On the right-hand edge of the tablet you'll find two ports: USB 3.0 and micro HDMI, and a microSD card slot. On the left are the headset jack and physical volume controls. All other connections are wireless, with dual-band 802.11n Wi-Fi and Bluetooth 4.0. The Surface 2 also includes the usual tablet sensors: accelerometer, gyroscope, magnetometer, and ambient light detection through the onboard cameras.

The Surface 2 features a front-facing 3.5-megapixel webcam; it's ideal for Skype, producing clear images and good 720p video capture. The rear-facing camera increases the resolution to 5MP, and is set at a slight angle so as to offset the tilt of the tablet when using the kickstand; you'll need to hold the Surface 2 at an angle when holding it in your hand. And though this angle works well for the first kickstand position, it doesn't correct for the angle of the second. It's just another feature that manages to be both thoughtfully designed and frustrating at the same time.

The Surface 2 is available with either 32GB of internal storage (\$449), as seen

in our review unit, or 64GB (\$549). Microsoft covers the Surface 2 with a one-year limited warranty.

SOFTWARE AND APPS

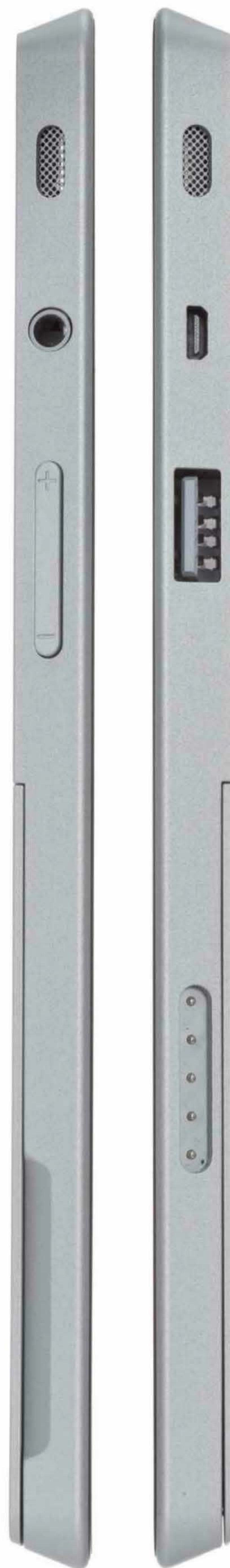
With the Windows RT 8.1 update, many of the same changes seen on Windows 8.1 come to the Surface 2's tablet OS as well. The Start button is back when in Desktop mode, and the Start screen's tiles can be resized and repositioned with greater flexibility. The biggest change in the OS is that the Desktop tile has been removed, so you have no direct path there from the Start screen. And Office RT 2013 has been expanded to now include an RT-friendly version of Outlook in addition to the variants we already had of Word, Excel, PowerPoint, and OneNote included with the original Surface RT.

Other extras include 200GB of cloud storage via Microsoft SkyDrive, which both bolsters the 32GB of onboard storage and makes it easier to share and sync files with non-RT PCs. If you want to really integrate the Surface 2 into your circle of personal computing devices, SkyDrive is essential. Microsoft's offer only lasts for two years, however, after which you'll need to pay for the same amount of storage.

Though Microsoft also bundles in the Best of Skype package, which adds one month of free international calling and free Wi-Fi through Skype hotspots along with the normal Skype app, the overall selection of apps still feels paltry. There are over 100,000 Windows RT apps available now, which is better than when the Surface RT launched, but that's still a lot less than you'll find on Apple or Android tablets—and there are lots of apps that simply don't have RT versions.

PERFORMANCE

The Surface 2's 1.7GHz Nvidia Tegra 4 quad-core processor and 2GB of RAM are a step up from what we saw in the Surface RT. On our BrowserMark 2.0 test,





the Surface 2 left the previous Surface RT in the dust, offering a much faster browsing experience. But this ARM processor means that the Surface 2 doesn't support any traditional Windows software—including our normal batch of Windows benchmark tests.

Although it has the same-size 31.5Wh battery as the Surface RT, the Surface 2 stretches the available charge for several hours more, lasting 14 hours 51 minutes in our battery rundown test. By comparison, the leading Dell XPS 10 lasted 11:34, well ahead of the Asus Vivo Tab RT (9:37) and the fourth-generation Apple iPad (5:36). The previous Surface RT lasted only 7:45. But both the Dell XPS 10 and the Asus Vivo Tab RT also offered a docking keyboard with a secondary battery, extending the life of the tablet to 20:36 and 15:00, respectively. Though the Surface 2—thanks to more efficient hardware—offers nearly as long battery life on its own, the addition of a secondary battery would extend it even further.

CONCLUSION

Thanks to its processor, battery life, lower price, and expanded productivity, the Surface 2 is the clear leader among Windows RT tablets, and thus our new Editors' Choice for that category. But dozens of other tablets have come on the market recently—such as the Asus Transformer Book T100TA—that boast full versions of Windows 8.1 and better overall value. If you want Office and Skype on an affordable tablet with a high-resolution screen—and you don't require the full Windows experience—the Surface 2 is the best there is.

BRIAN WESTOVER



The Next-Generation Netbook Is a Tablet



The netbook scene used to be filled with sub-\$500 low-powered laptops that were just powerful enough for general use and small enough to take anywhere. Then tablets such as the iPad and Galaxy Note 10.1 wiggled their way into that spot, but required giving up the full-featured desktop browsers, legacy Windows programs, and browser plug-ins that only work on full PCs. Enter the Asus Transformer Book T100TA, a fully functional Windows 8.1 PC that acts equally well as either a tablet or a clamshell netbook. It's the first hybrid tablet we've

**Asus
Transformer
Book T100TA
(64GB)**

\$399



seen that can ignore the limitations of mobile OS–powered tablets, for the same or better price. If you need to replace your pre-2011 netbook with something faster, longer lasting, and more modern, then the Asus Transformer Book T100TA is what you want.

DESIGN AND FEATURES

The Transformer Book T100TA is the spiritual successor to Asus' previous attempt at a hybrid laptop, the Vivo Tab RT, which came in a similar-looking configuration. The Transformer Book measures about 0.41/0.93 by 10.5 by 6.75 inches (HWD), 0.41 inch thick alone as a tablet and 0.93 inch thick with the included keyboard dock. This compares well with Microsoft's slightly larger Surface 2, though that one doesn't include a keyboard in the base price. The Transformer Book T100TA's polycarbonate body isn't quite as nice as the Surface 2's (it uses VaporMG instead), but its rounded edges are comfortable to hold alone or docked to the keyboard.

The tablet portion of the system weighs only 1.23 pounds, making it only slightly heavier than Apple's new iPad Air; adding the keyboard ups the weight to 2.4 pounds. The 10.1-inch IPS screen only has a 1,366-by-768 resolution, compared with the 1,920-by-1,080 resolution you see on the

Asus Transformer Book T100TA (64GB)

PROS Can run all Windows software. Lightweight. Incredibly affordable. Excellent battery life. Easy to charge. Supports dual-band Wi-Fi. Includes keyboard, 1TB of free cloud storage for one year, full Microsoft Office Home & Student 2013.

CONS Limited system memory. Finicky touchpad. Little free storage space. Smallish keyboard.





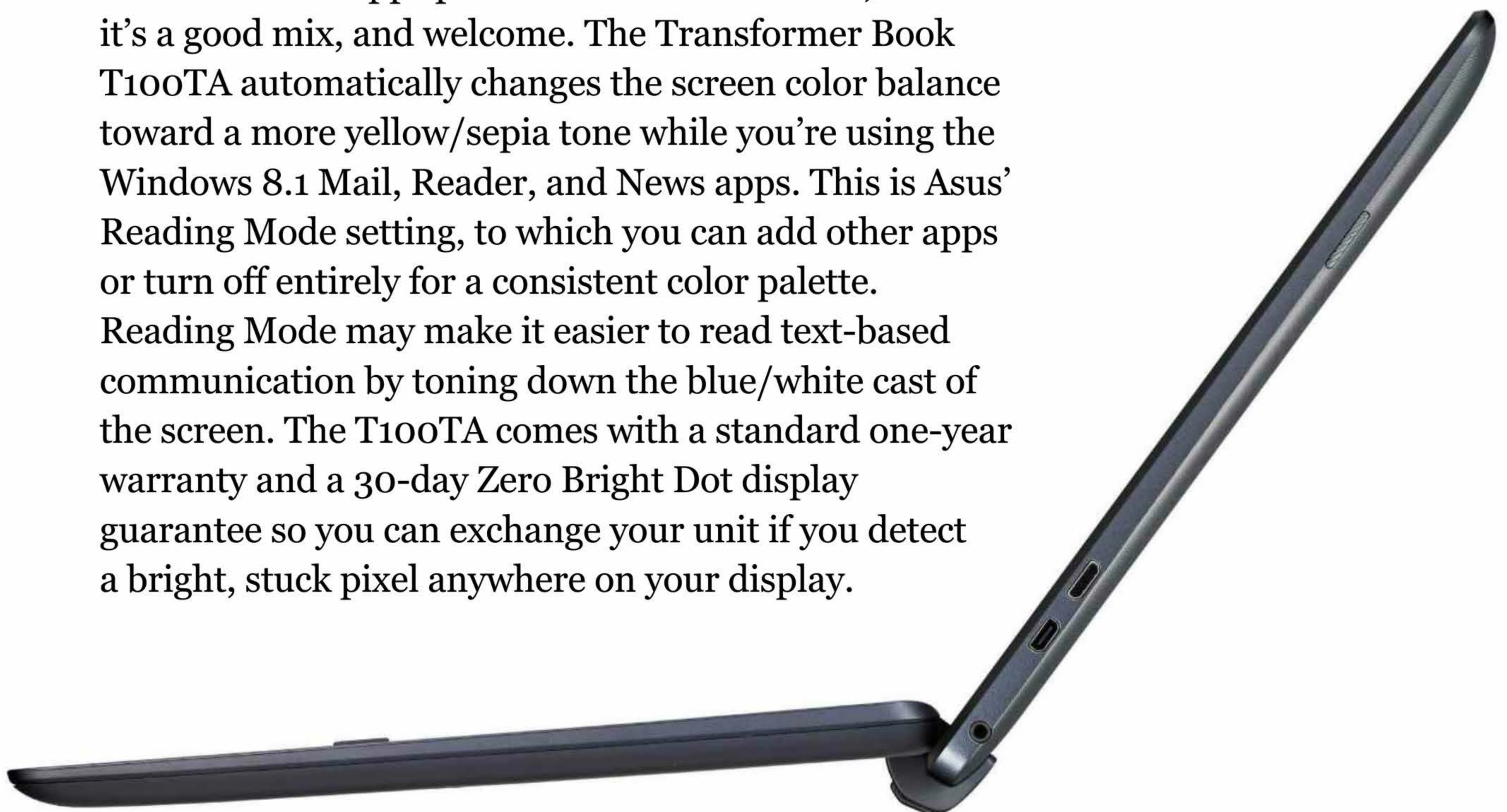
Surface 2—a forgivable disadvantage given the Transformer Book's price and other features, and unless you have an eagle's eyes you probably won't miss the extra pixels at this screen size. The stereo speakers are loud enough to fill a small room, and they surprisingly don't clip out all the bass notes. Sound effects on movies such as *The Avengers* came in much clearer than expected for a tablet. Streaming video from several online services played smoothly and largely stutter-free. This all helps the Transformer Book look and sound like it costs much more than it does.

On the tablet you'll find a micro USB port that can be used for both charging and as a regular USB port (with an adapter). The tablet also has a micro HDMI port, microSD card reader, volume control, power button, headset jack, and a physical Windows/Start button on its edge. Dual-band (2.4GHz and 5GHz) 802.11a/b/g/n Wi-Fi and Bluetooth 4.0 are the built-in wireless

KEYED IN
Unlike some competing tablets, the Transformer Book T100TA comes with a full detachable keyboard.

protocols. The keyboard dock doesn't sport its own battery pack and isn't backlit, but it has a full-size USB 3.0 port and is comfortable to type on. Unfortunately, its multitouch touchpad had intermittent trouble registering swipes as calls to the Charms menu and sometimes had a delay in tracking initial touches, though this shortcoming is negligible if you hook up an external mouse or just use the five-point touch screen most of the time. Because the system only has about 31GB free after you activate the included Microsoft Office Home and Student 2013 suite, we recommend supplementing the storage with up to 64GB more with the microSD card reader or using the included "unlimited" Asus WebStorage (nominally 1TB, free for one year).

In addition to Office, the Transformer Book T100TA has Amazon's Kindle app, Netflix, Skype, and a few Asus apps preinstalled. On the whole, it's a good mix, and welcome. The Transformer Book T100TA automatically changes the screen color balance toward a more yellow/sepia tone while you're using the Windows 8.1 Mail, Reader, and News apps. This is Asus' Reading Mode setting, to which you can add other apps or turn off entirely for a consistent color palette. Reading Mode may make it easier to read text-based communication by toning down the blue/white cast of the screen. The T100TA comes with a standard one-year warranty and a 30-day Zero Bright Dot display guarantee so you can exchange your unit if you detect a bright, stuck pixel anywhere on your display.





PERFORMANCE

The Atom Z3740 processor in the Transformer Book is one of the new 2-watt CPUs based on Intel's Bay Trail architecture, which finally makes Atom usable for general Windows purposes. (The system also has 2GB of system memory.) With its built in 31Wh battery, the Transformer Book managed an excellent 11 hours 20 minutes on our battery test—better than we saw with either the Lenovo IdeaPad Miix 10 (7:20) or the Dell Latitude 10 (9:20), and considerably more than the 4:10 we got from our budget laptop Editors' Choice, the Dell Inspiron 15 (I15RV-6190 BLK).

The Transformer Book held up well against that full-size Inspiron 15, scoring a remarkable 2,485 on PCMark 7 (compared with the Dell's 2,117), though both destroy the results we saw from all systems we've tested using the previous-generation (Clover Trail) Atom processors.

The Transformer Book T100TA had no problem with basic Photoshop CS6 operations, but struggled with the strenuous rendering filters we use in our official benchmark test. The T100TA also made short work of our Handbrake video encoding test, finishing in 2 minutes 41 seconds—a quarter of the time older Atom systems have needed. (The Pentium-powered Dell Inspiron 15 just edged its way past the T100TA at 2:23.) Basically, Asus' new system has the wherewithal to perform day-to-day tasks and light to moderate multimedia creation.



“
**The T100TA
trounces
many other
similarly
priced
systems to
give you the
most bang for
your buck.**
”

CONCLUSION

The Asus Transformer Book T100TA is the first Atom-powered consumer PC that we feel comfortable wholeheartedly endorsing following the virtual death of the netbook after 2011. Because it runs the full Windows 8.1, lasts all day on battery, and works well in both the traditional laptop form factor and as the touch-enabled tablet people have come to expect in recent years, the T100TA trounces many other similarly priced systems to give you the most bang for your buck. We're awarding it our Editors' Choice award for entry-level hybrid tablets—it's the first system of its kind we've seen that can replace both a mobile tablet and a laptop to become your primary PC on a budget.

JOEL SANTO DOMINGO



Apple's High-End Laptop Is Thinner, Better Than Ever



Take last year's excellent MacBook Pro with Retina display, make the chassis thinner, then add a powerful Intel Core i7 processor with integrated graphics that performs like discrete graphics, and what do you get? This year's MacBook Pro is the pinnacle of laptops designed for über-picky power users who need to take their time-sensitive projects with them.

Apple MacBook Pro 15-inch
(Retina display)

\$1,999



DESIGN AND FEATURES

The new MacBook Pro looks identical to last year's, with the same aluminum-and-glass construction, the same 15.4-inch, 2,880-by-1,800-resolution IPS display, and the same chiclet-style backlit keyboard that's flanked by speaker grilles. Aesthetically, the MacBook's design is a balanced one, though number crunchers may miss not having a keypad for spreadsheet data entry. The sides of the chassis are vented to let air flow through the base of the laptop, cooling the processor and batteries. The large multitouch trackpad is centrally located and responds instantly to commands. The keyboard is as comfortable to type on as previous models', is solid, and is evenly backlit.

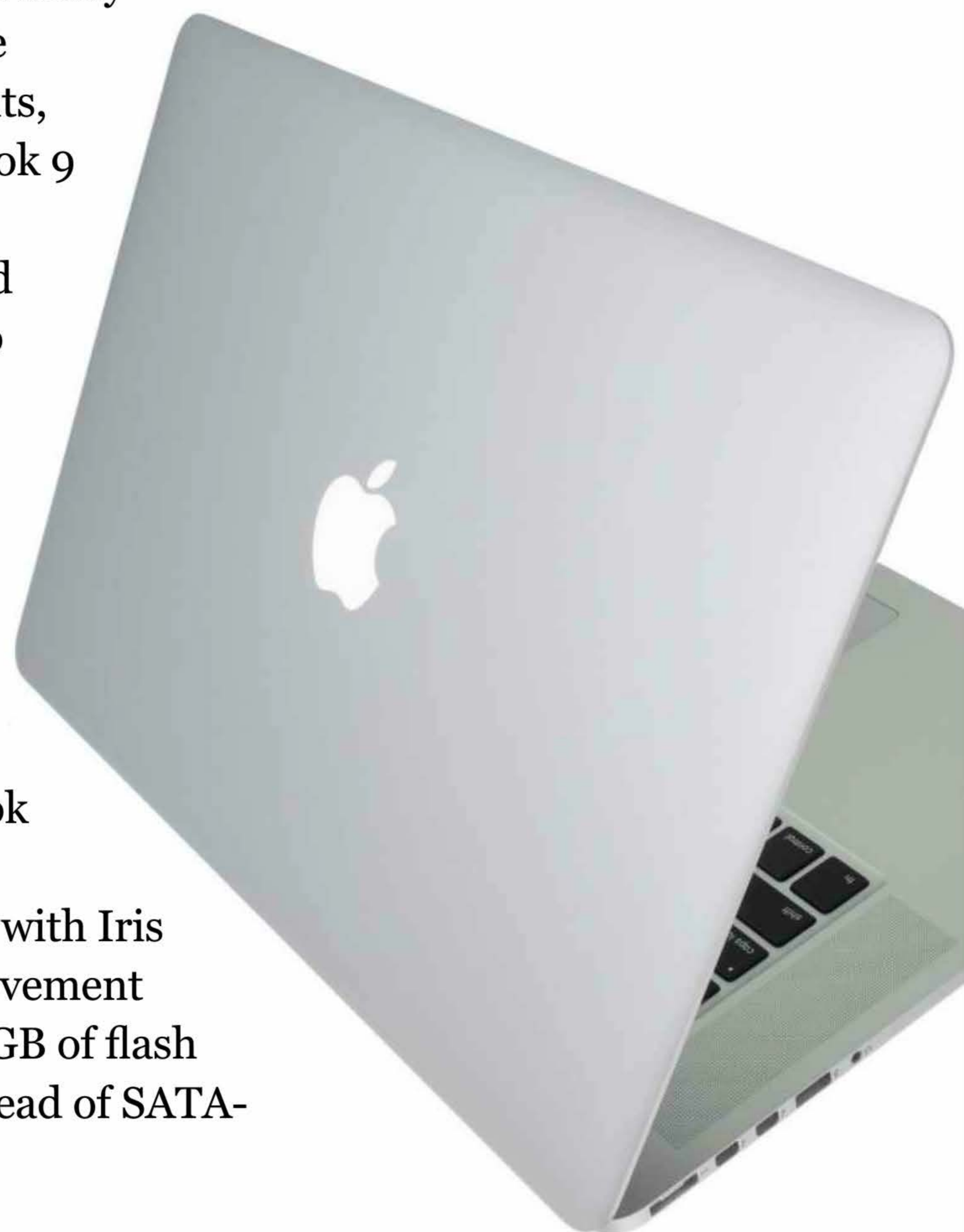
The excellent Retina display still isn't touch enabled, but as OS X isn't yet optimized for touch you'll hardly miss it. Many more apps take advantage of the Retina display now than did last year, so you'll only run into blocky-looking UI elements if you use a really old version of a program. Though some laptops' screens have higher pixel counts, including that on the Samsung Ativ Book 9 Plus (see our review in this issue), we probably won't hear too many high-end Mac users complain. The MacBook Pro supports up to 4,096-by-2,160 resolution on an external display via HDMI. About the only nit we have with the Retina display is that it doesn't have a matte finish option, something that went away when Apple recently discontinued the previous generation of 15-inch MacBook Pro models.

The Intel Core i7-4750HQ processor with Iris Pro 5200 graphics is likewise an improvement over last year's CPU. The system's 256GB of flash storage is now PCI Express-based instead of SATA-

Apple MacBook Pro 15-inch (Retina display)

PROS Brilliant screen. Long battery life. Includes iLife, iWork software suites. Equipped with two Thunderbolt 2, HDMI ports. Integrated graphics performs like discrete.

CONS Glossy screen. Ethernet requires adapter.





based, which helps speed file transfer and app loading operations. On the exterior, the system has HDMI, USB 3.0, and the SD card reader on the right, with another USB 3.0 port, MagSafe 2 connector, headset jack, and two Thunderbolt 2 ports on the left. Thunderbolt 2 supports a higher 20Gbps of bandwidth than the 10Gbps Thunderbolt ports that have appeared on Macs since early 2011. Thunderbolt devices are fully compatible with Thunderbolt 2, but it remains to be seen how quickly users and manufacturers adopt Thunderbolt 2 when the selection of regular Thunderbolt products is still somewhat limited. As in the past, the Thunderbolt 2 ports can be used for either Thunderbolt or Mini DisplayPort monitors. The system comes with 802.11ac Wi-Fi networking, but you'll have to use a USB-to-Ethernet adapter or Thunderbolt-based docking station to get wired Ethernet connectivity.

One of the big news stories from October's Apple event was the inclusion of the updated Apple iLife and Apple iWork software suites along with Apple OS X 10.9 Mavericks, Apple's updated operating system for Macs. This means that you can use the MacBook Pro right off the bat with fully functional business, content creation, and entertainment software suites. This flies in the face of Microsoft systems, most of which don't include Office (unless you count the time-limited trial you get with every new PC). The other additions to Mavericks work well, as does the built-in 720p FaceTime HD camera. Like the latest crop of Apple MacBook Air models, the MacBook Pro has a new dual microphone array to help with FaceTime conversations.

ON THE EDGE
Ports on the latest MacBook Pro include two Thunderbolt 2, which support 20Gbps of bandwidth—twice that of the first-generation Thunderbolt protocol.



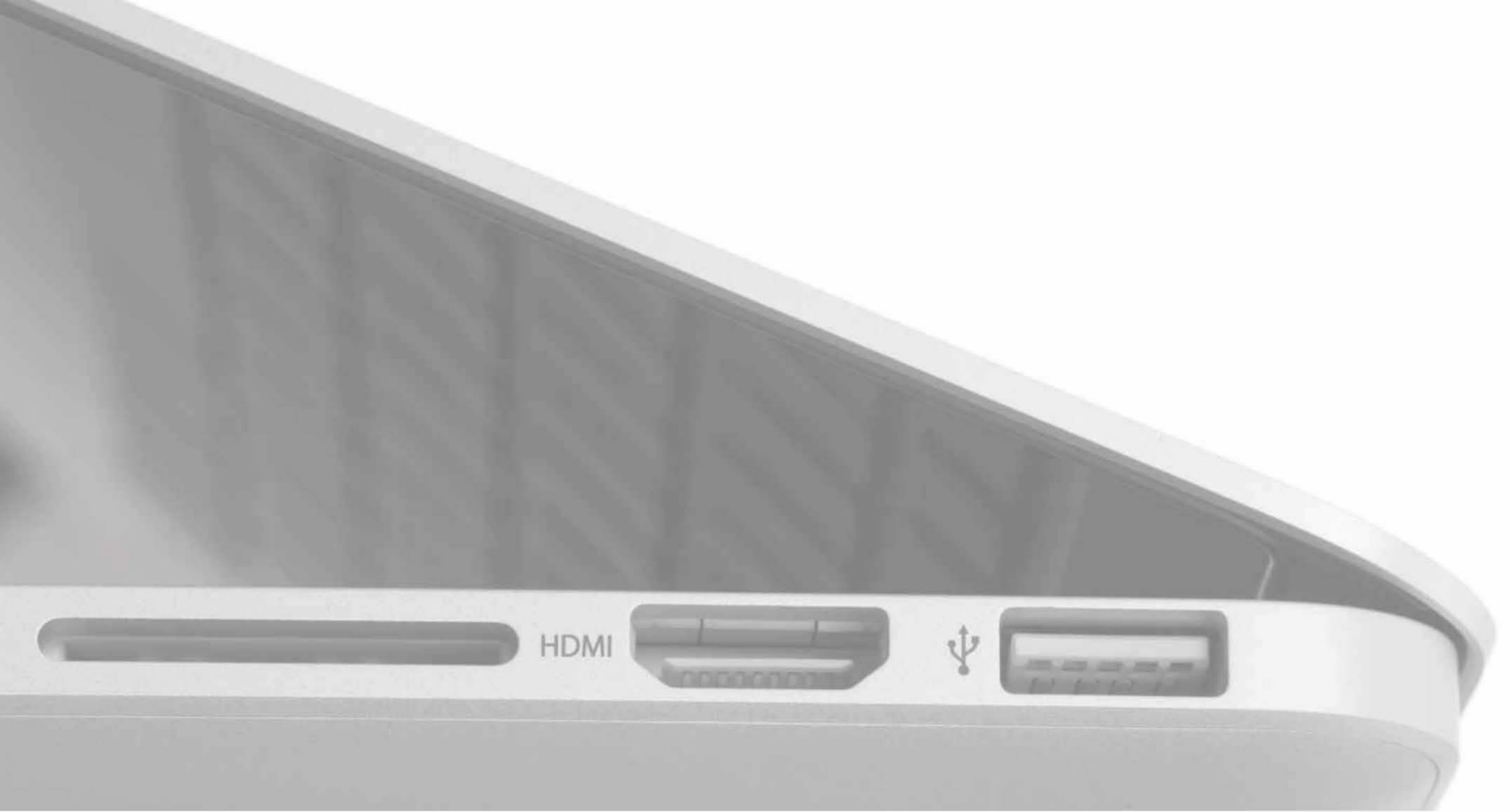
The MacBook Pro comes with a standard one-year warranty with 90 days of 24/7 technical support.

PERFORMANCE

The MacBook Pro's quad-core processor is speedy and energy efficient, shown by the system's class-leading results on our Photoshop CS6 (3 minutes 14 seconds) and battery-rundown (8 hours 52 minutes) tests. Other systems in this price category, such as the Toshiba Kirabook, are hours short on battery life and are left behind on the multimedia benchmark tests.

What's notable about the Iris Pro graphics is that this new MacBook Pro is able to almost match last year's on the Heaven 3D gaming test (42fps versus 45fps, at medium quality settings), even though last year's model used discrete Nvidia graphics. This means that for light to moderate gaming, the Iris Pro 5200 is more than adequate. The new PCIe-based flash storage was quick on booting up, installs, file operations, and launching apps.

Apple's new 15-inch MacBook Pro earns its title as one of the best high-end desktop replacement laptops you can buy. It has the power of a desktop Mac, and the battery life to carry you through a full workday and beyond. The screen



resolution is higher than you'll see on most all-in-one desktop PCs and desktop replacement laptops. The MacBook Pro compares well against laptops ranging in price from \$1,400 to high-powered systems that run more than \$2,700. Systems such as the Toshiba Kirabook and the Razer Blade come in at about the same \$2,000 price point, but don't offer the same outstanding blend of amenities and performance; even the otherwise excellent Asus ZenBook UX51Vz-DH71, which puts up a good fight, can't compare in terms of screen resolution (it's limited to 1080p HD) or battery life (it lasts less than half as long as the MacBook Pro). Upcoming professional-grade Windows mobile workstations have the potential to challenge the MacBook Pro in thinness, resolution, and performance, but right now Apple takes the crown and our Editors' Choice award.

JOEL SANTO DOMINGO



This Laptop Puts the 'Ultra' in Ultrabook



With few exceptions, the current crop of premium ultrabooks are all about the three Ps: portability, performance, and pixels.

Boasting the latest in processing and display technology, plus a terrific design, the Samsung Ativ Book 9 Plus delivers on all three.

Samsung Ativ Book 9 Plus

\$1,399



DESIGN

The obvious place to start discussing the Book 9 Plus is its 13.3-inch display. It boasts a whopping 3,200-by-1,800 Quad HD+ touch screen that's better than what

you'll find on almost any other laptop on the market—including Apple's Retina display—equipped MacBook Pros. Unlike the Retina display, the Ativ Book 9 Plus's screen also has ten-point touch, an essential feature for Windows 8.

Apple comparisons don't stop there. The Book 9 shares with the MacBook Air a similar sliver-thin design, a minimalist aesthetic, and an aluminum all-metal chassis, though Samsung subdues it quite a bit by adding a dark coat of paint and leaving only a glint of metal along the edges of the chassis. The slim ultraportable measures 0.54 by 12.58 by 8.78 inches (HWD), about the same size as the MacBook Air, though the Samsung system is just a bit heavier (3.06 pounds versus 2.91 pounds).

The Ativ Book 9 Plus has a full-size chiclet-style keyboard, complete with backlight, which is joined by a fairly large touchpad measuring 2.7 inches high and 4 inches wide. The buttons are incorporated into the touch surface, and the touchpad also supports Windows 8 gestures.

To provide a firm backing for the touch screen, the laptop hinge opens smoothly to just past 90 degrees, and then requires more force to open further, similar to the dual-friction hinge used on the Editors' Choice Acer Aspire S7-392-6411. The result is a touch screen that holds firm against all of your poking and prodding while still opening and closing without issue. The one oddity of the Ativ Book 9 Plus is the decision to use a 180-degree hinge—I can't for the life of me think of any circumstances in which you'd want to open up the ultraportable to lay it completely flat.

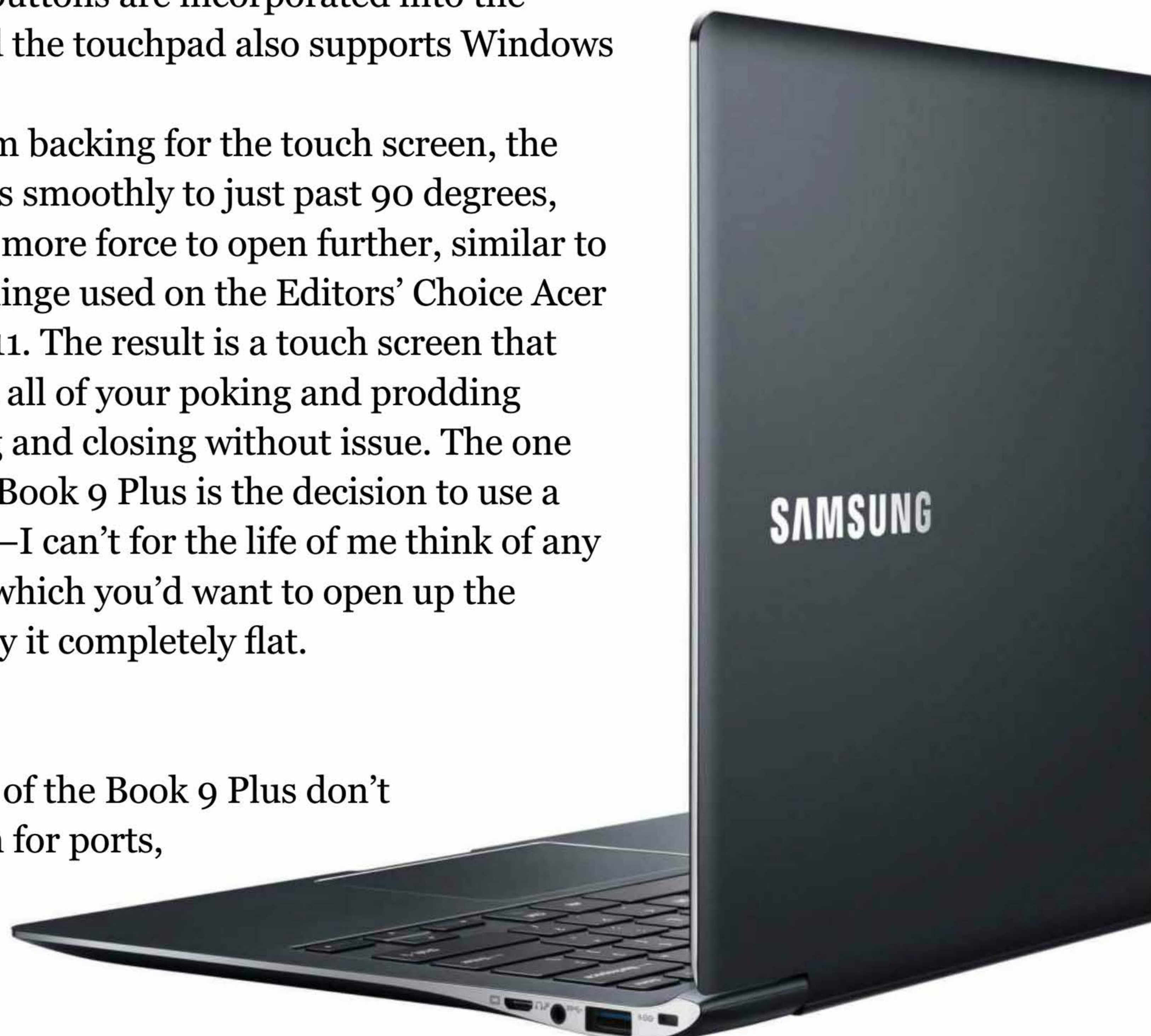
FEATURES

The narrow edges of the Book 9 Plus don't leave a lot of room for ports, but there's still a pretty good

Samsung Ativ Book 9 Plus

PROS Incredible high-resolution display with ten-point touch. Delivers solid performance. Slim, lightweight design. Premium materials used in construction. Long battery life. Dual-band Wi-Fi. Sturdy 180-degree hinge.

CONS Limited storage capacity. Marquee software options have limited appeal. Dongles for VGA, HDMI not included.





selection. On either side of the laptop is a full-size USB 3.0 port for use with external drives and peripherals. On the right you'll find a combination headphone and microphone jack, and a tiny connector that converts to full-size VGA with an accessory dongle (\$39.99, not included). On the left, a micro HDMI port lets you connect to a second monitor or HDTV, and a minuscule LAN port offers Gigabit Ethernet when using a different adapter dongle (also \$39.99, but included with the laptop). Also on the left is an SD card slot, which is concealed by a spring-loaded cover that swings in rather than pushes out, automatically protecting the card slot when it's not in use.

There are also a number of wireless options, with dual-band 802.11n Wi-Fi providing 2.4GHz and 5GHz Internet connectivity that does better in crowded areas than 2.4GHz alone, and Bluetooth 4.0 + HS for use with smartphones and wireless peripherals. Finally, when you want to skip the dongles and cables, WiDi 4.1 lets you stream HD content wirelessly to a WiDi-equipped TV or WiDi adapter.

Preinstalled on the hard drive are several programs and applications to accompany Windows 8, including Skype, Netflix, iHeart Radio, Plants vs. Zombies, Bitcasa, a 30-day trial of Norton Internet Security, and

ANY PORT
A USB 3.0 port may be found on both edges of the Samsung Ativ Book 9 Plus; micro HDMI and LAN ports are available, too.



a free copy of Adobe Photoshop Elements, but two unique Samsung offerings stand out. The first is SideSync, which lets you automatically sync files between the Book 9 Plus and several current Samsung Android smartphones, such as the Galaxy S4, and access the phone's functions from the computer. The second is HomeSync Lite, which lets you use the PC as the central hub of a personal cloud, syncing files between multiple devices, though its capabilities are limited by the fact that it's tied to the laptop's fairly small local storage (128GB, though on a speedy SSD). Samsung covers the Book 9 Plus with a one-year warranty.

PERFORMANCE

The Book 9 Plus is outfitted with a 1.6GHz Intel Core i5-4200U processor that helped the laptop deliver strong performance in tests such as PCMark 7 (4,907) and CineBench (2.50), where it fell right in line with the similarly equipped Acer Aspire S7 and the Sony VAIO Pro 13. In multimedia tests, the Book 9 Plus finished Handbrake in 1 minute 23 seconds, and cranked through Photoshop in 5:51, edging ahead of the Acer in Photoshop (6:01) and topping the 13-inch MacBook Air (3:15 Handbrake, 7:07 Photoshop).

The Book 9 Plus makes the most of the integrated Intel HD Graphics 4400, squeezing out 3DMark 11 scores of 1,655 (Entry) and 271 (Extreme), just behind the Acer Aspire S7 and just ahead of the Sony VAIO Pro 13. We couldn't attain playable results in our gaming tests at any setting so we can't recommend the Book 9 Plus for that use, but these results are better than we've seen with previous-generation Intel graphics.

With a 55Wh battery sealed in the chassis, the Book 9 Plus lasted 8 hours 15 minutes in our battery rundown test. This puts it right alongside the Acer Aspire S7, which lasted only 7 minutes longer (8:22), and well ahead of the Sony VAIO Pro 13 (6:23), but none of these hold a candle to the 13-inch MacBook Air's 15:33.

CONCLUSION

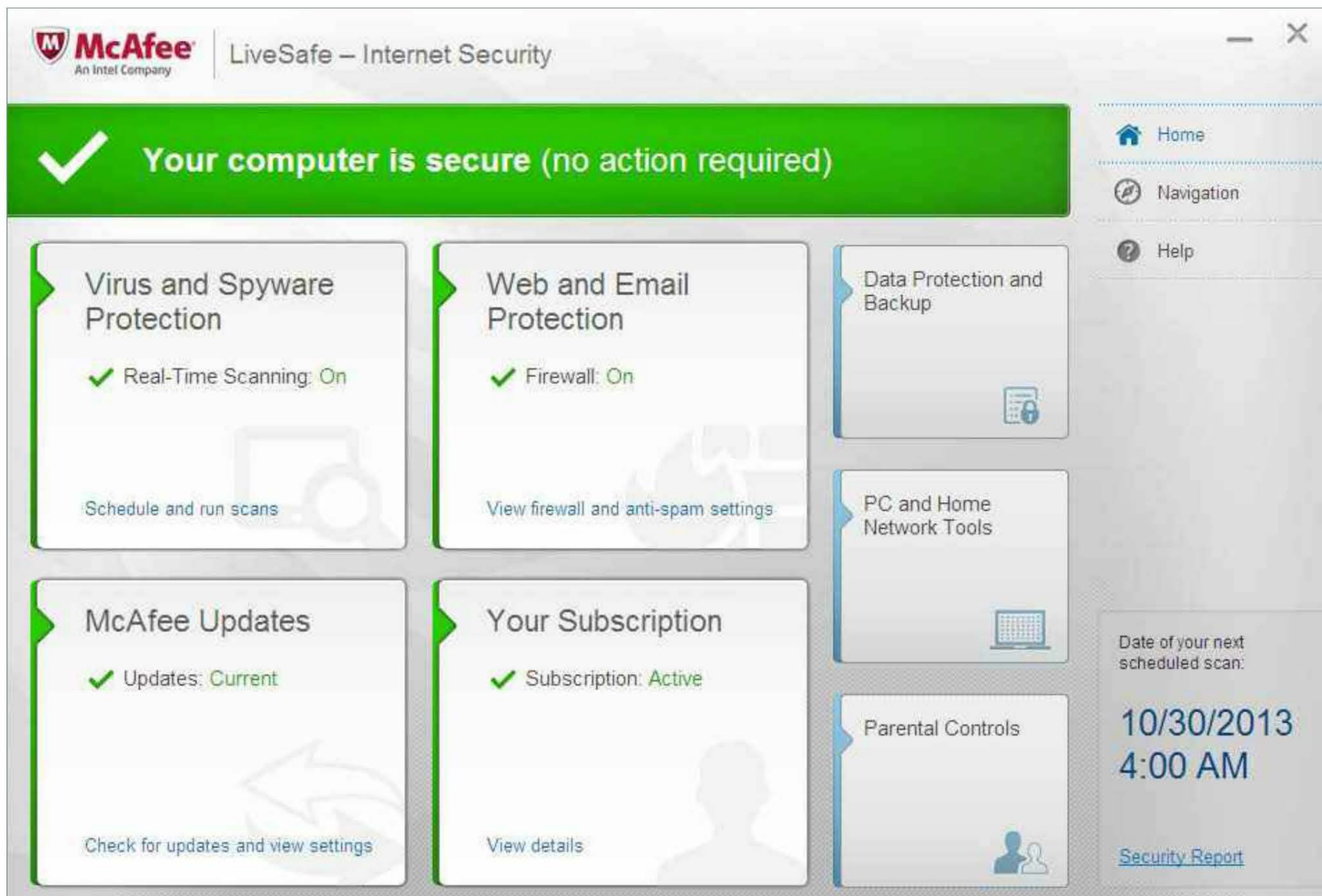
In terms of performance and battery life, the Samsung Ativ Book 9 Plus holds its own against other premium ultrabooks, in terms of both performance and pricing. What the Book 9 Plus has that others do not is a higher-than-HD screen that rivals Apple's Retina display. Though other versions of this laptop offer less impressive features or cost more than they should, about the only thing I can knock this configuration of the Book 9 Plus for is its use of ports that require dongles, but that's not so uncommon on thinner ultrabooks. For the price, it matches the portability and performance of the Editors' Choice Acer Aspire S7 and offers the sort of resolution you'll prize when working with photos or enjoying movies. Add it all up, and the Samsung Ativ Book 9 Plus is the new Editors' Choice for premium ultrabooks.

BRIAN WESTOVER



In terms of performance and battery life, the Samsung Ativ Book 9 Plus holds its own against other premium ultrabooks.





Protect Every PC, Mac, and Mobile Device You Own



One big reason to choose a security suite rather than a collection of separate security products is consistency. You don't have to learn the logic of a different security company for each component; you can concentrate on mastering that one all-encompassing suite. McAfee LiveSafe extends this concept across multiple platforms and devices. One \$79.99-per-year subscription lets you apply consistent protection to all of your PCs, Macs, and mobile devices. You don't get the parental controls or

McAfee LiveSafe

\$79.99 per year



online backup features you used to with McAfee All Access, but antitheft functionality, SafeKey password management, and Personal Locker file protection with voice and facial recognition help pick up the slack.

TOP-NOTCH PROTECTION

After you've activated your subscription on McAfee's website, you can begin installing the software on all of your devices. For basic security protection, PC users will install McAfee LiveSafe—Internet Security. Mac users will install McAfee LiveSafe—Internet Security for Mac; both these are almost identical to the standard McAfee Internet Security products. McAfee LiveSafe—Mobile Security is the Android version; iOS devices are limited to just SafeKey and Personal Locker, Kindle Fire devices get Mobile Security and SafeKey, and BlackBerry users get only Mobile Security. There's no limit to the number of devices you can protect, and you can track them all using McAfee's online dashboard.

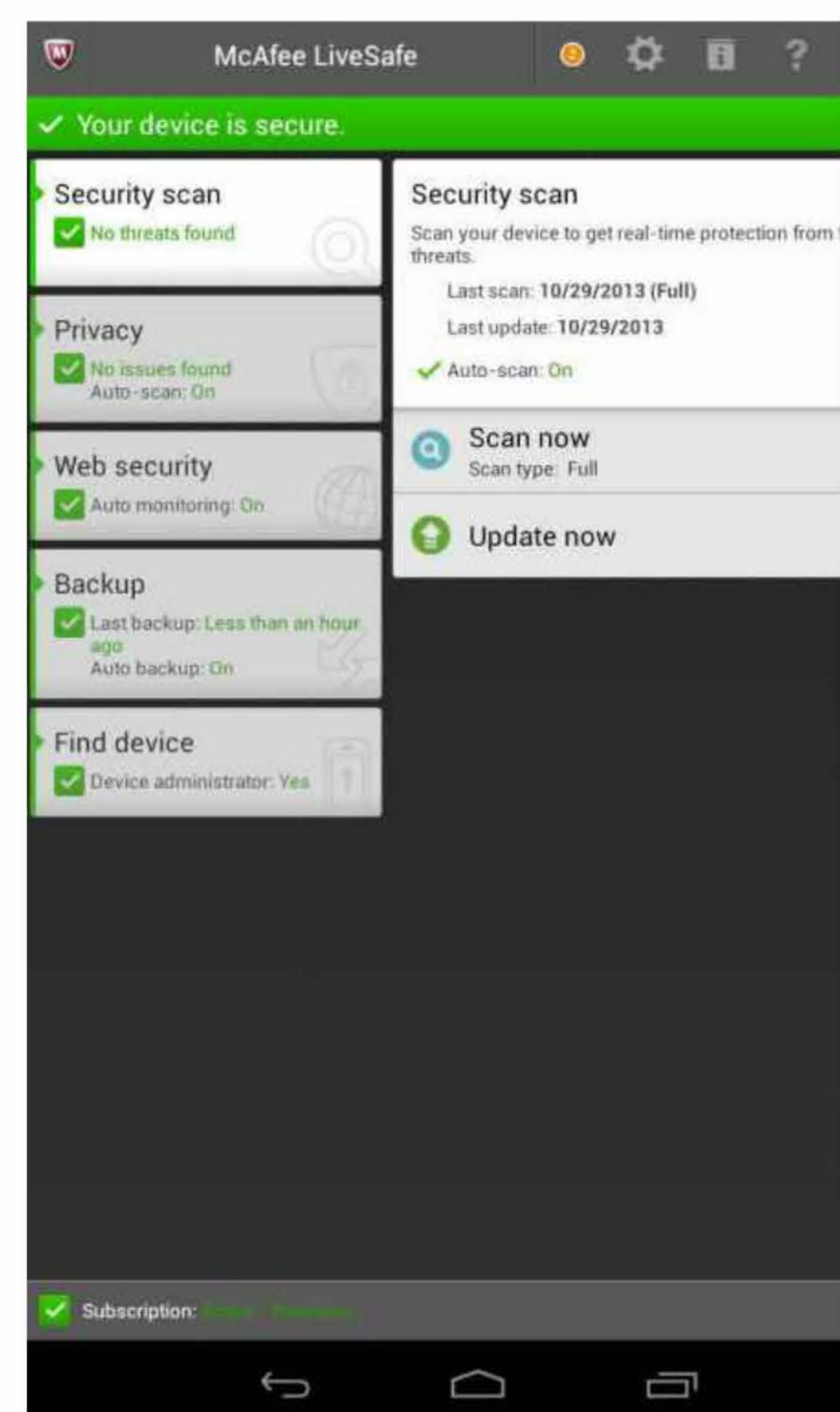
If you're familiar with LastPass you know how to use SafeKey, because SafeKey is a licensed version of it that omits some of the high-end features most likely to be used only by experts. SafeKey captures your credentials when you log in to secure sites and offers to replay them when you revisit the site—from any device. You can create one or more form-fill profiles, complete with contact information, a credit card, a bank account, and custom fields. SafeKey can optionally offer to capture this information after you've filled in a Web form. Once your profile is complete, SafeKey will fill in all the fields it can match in any Web form.

Personal Locker lets you store up to 1GB of anything you want and protect it with both face and voice recognition as well as a PIN. (Obviously, the device on which you use it needs a camera and microphone.) The technology is cool, though not perfect—sometimes the app needed to snap more than one photo of me to recognize my face—though it can be cumbersome

McAfee LiveSafe

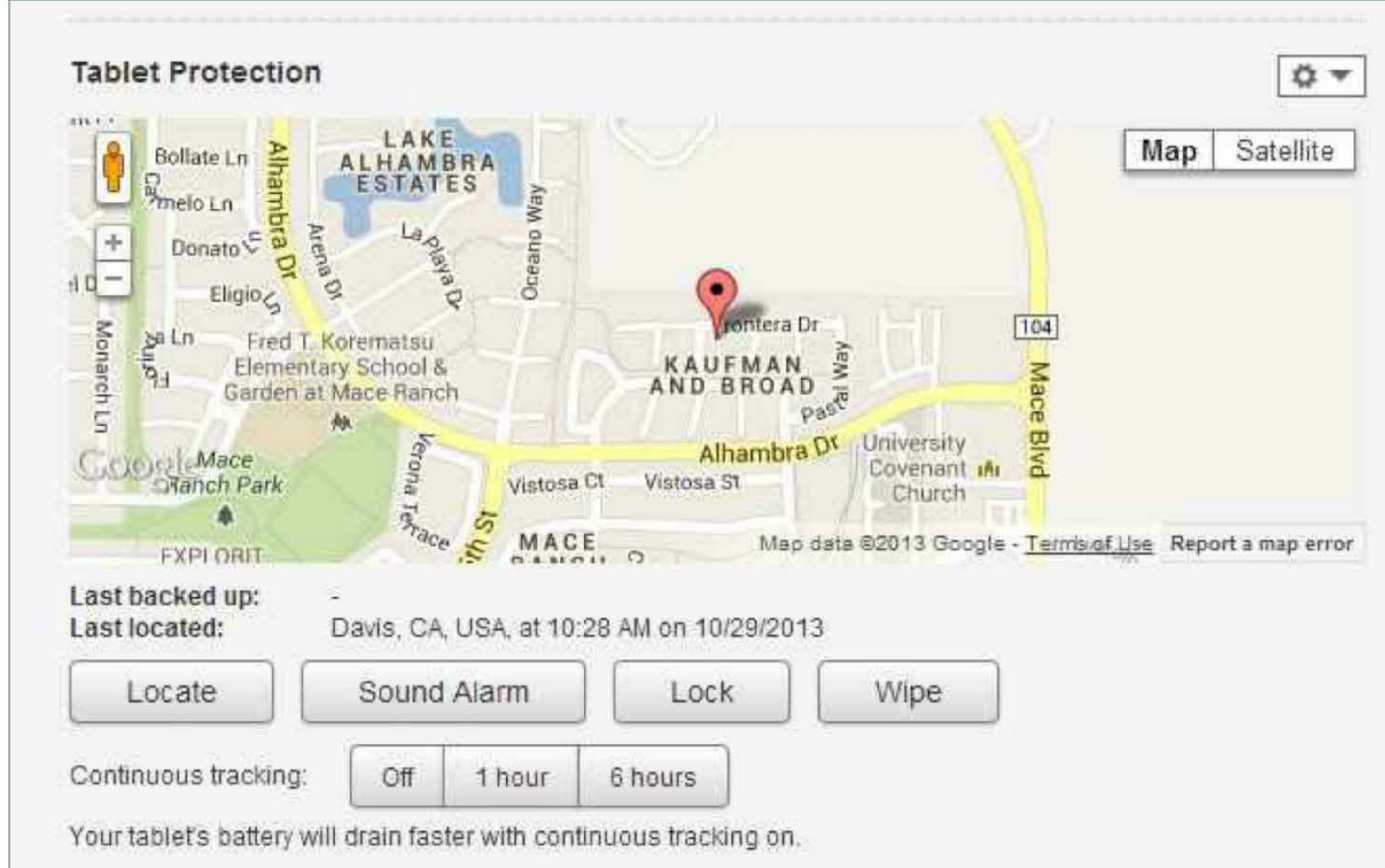
PROS Works on all computers, mobile devices in your household. Includes password manager, digital locker for storing sensitive data. Online dashboard manages all devices. Antitheft features for Android, some laptops.

CONS No backup, parental control functions. Not all mobile devices get all features.



MOBILE SECURITY

LiveSafe protects phones and tablets, but different devices get different sets of features.



REMOTE LOGOUT
With McAfee LiveSafe you can track lost or stolen devices, and lock or wipe them altogether to keep your personal data out of thieves' hands.

unless you have extremely sensitive data you want to guard, and are willing to go through a lot of trouble to protect it.

ANTITHEFT, TWO WAYS

Android malware definitely exists, but loss or theft may be an even bigger danger to your Android device. McAfee's mobile protection includes all of the expected antitheft actions (lock, wipe, locate, scream, and so on) and also backs up your data. You can define one or more "buddies" who will receive a notification if a thief replaces the device's SIM card. LiveSafe lets you send commands via either a Web portal or text message—it's rare that mobile antitheft products let you do both.

New in LiveSafe is an option to extend antitheft protection to your PCs and laptops, as long as they're modern enough to have Intel Anti-Theft technology inside. To start, go to the McAfee online console and install the Anti-Theft component on the device; all you need to do is configure an eight-digit unlock passcode and enter your email address. If your laptop is lost or stolen, you can log in to the McAfee console and check its location history. Doing so might reveal that you left it at a friend's house, or it might show where a laptop thief is hanging out. You can choose to stay stealthy and track the laptop's movements or lock it down right away (and thereby lose the ability to continue tracking it).

The locked PC displays a message at attempted boot-up, so you can add your contact info there in case a Good Samaritan finds it. There's also a nifty option to automatically lock down the computer if it doesn't connect with the Internet for a certain number of days, to foil a thief who disables connectivity so the PC can't receive antitheft messages.

Step 3: Record your voice

Make sure your voice is clear and there are no distracting noises in the background, like someone talking or your dog barking. Read the phrase in the bubble, and we'll record it. We'll ask you to repeat it a few times.

My identity is secure because my voice is my passport. Verify me.



Recording 3 of 3

Start Recording

Cancel

CROSS-PLATFORM AND MORE

The value proposition is really, really simple. Buy McAfee LiveSafe and you can fully protect every PC, Mac, and Android device in your household, plus receive partial protection for iOS, BlackBerry, and Kindle Fire devices.

But wait—there's more! With LiveSafe you can manage all of your devices through a single Web-based console that includes antitheft access for Android devices and certain PCs. McAfee SafeKey lets you securely share your Web passwords across all your devices. And using Personal Locker you can store sensitive items in secured cloud storage that can only be opened if the app recognizes your face and your voice.

There are other cross-platform multi-device security suites, but none of them offer McAfee's combination of unlimited devices and highly useful additional components. McAfee LiveSafe is our Editors' Choice in this hot category.

NEIL J. RUBENKING

Best of the Year

**DESKTOPS
LAPTOPS
PERIPHERALS
COMPONENTS
STORAGE**

**SOFTWARE &
INTERNET
MOBILE APPS
SECURITY**

**PRINTERS
SCANNERS
PROJECTORS
NETWORKING**

**TABLETS
EBOOK READERS
MOBILE DEVICES**

**CAMERAS
HDTV &
HOME THEATER
AUDIO**

**GAMING & TOYS
FITNESS**

BEST PRODUCTS OF 2013

Although the trend in computer hardware this year was toward the sleeker and svelter, much of it also got a lot faster. From systems to components to storage and beyond, 2013 was an incredible year for balancing value with sheer performance.

BY PC MAGAZINE STAFF

DESKTOPS PC PERIPHERALS & COMPONENTS STORAGE

LAPTOPS



DESKTOPS

BUDGET

GATEWAY DX4870-UB2B

A basic tower desktop that checks all the boxes you need, particularly if you already have an LCD display you're carrying over, the Gateway DX4870-UB2B is speedy for its segment. It has spacious storage, will let you keep many documents open simultaneously, and it's relatively inexpensive. It's also expandable, so it can grow with your family. It's a solid choice with lots of bang for the buck.

—JOEL SANTO DOMINGO



EDITORS' CHOICE



\$499.99



EDITORS' CHOICE



\$999.99

MAINSTREAM CONSUMER

VELOCITY MICRO VECTOR Z25

The Vector Z25 is an old-school midtower desktop with multimedia and 3D gaming chops, all for a sub-\$1,000 price. It's the kind of PC you would have paid \$2,500 for back in the day, and for multimedia users it comes highly recommended; this PC has the power to quickly complete tasks with photos and video, while keeping a little in reserve for moderate to hard-core gaming. —JSD



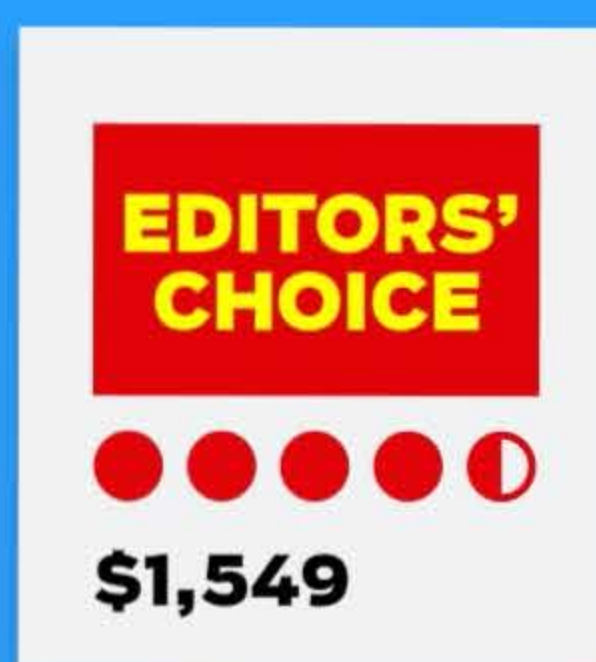
EDITORS' CHOICE



\$1,549

ALL-IN-ONE/ TOUCH-SCREEN VIZIO 27-INCH ALL-IN-ONE TOUCH PC (CA27T-B1)

With strong features and performance, Vizio's All-in-One Touch PC delivers on the promises made by its futuristic design. A touch screen, hybrid drive setup, quad-core processor, and improved touchpad help elevate the system. —JSD



DESKTOPS

BUSINESS/ WORKSTATION

HP Z230 SFF WORKSTATION

When you buy a workstation PC, you're buying more than just a desktop equipped with powerful components. You're also getting better reliability, tested and certified compatibility with professional software, and a design that lets you fix things quickly and minimize downtime. The full-featured HP Z230 SFF Workstation does all of that in a notably compact package you can actually fit on your desk with room to spare. —JSD



**EDITORS'
CHOICE**



\$2,045

GAMING

FALCON NORTHWEST FRAGBOX (GEFORCE GTX 780 SLI)

High-end gaming rigs like this one are made to play AAA titles at the highest possible resolution and quality settings—and the Fragbox is semi-portable to boot. This latest model gives users a high-powered fourth-generation Intel Core i7 CPU plus a pair of Nvidia's powerful GTX 780 video cards. —JSD



**EDITORS'
CHOICE**



\$4,499

COMPACT/SLIM

POLYWELL B8500

This small-form-factor desktop provides time-critical control or business info, and with its size can go where plain business desktops would fear to tread. It's a good choice for the factory control desk, prepress proof desk, or the broker's workspace. —JSD



**EDITORS'
CHOICE**



\$499.99

LAPTOPS

BUSINESS

DELL LATITUDE 6430U

Road warriors who prefer travelling with a light footprint will dig the Dell Latitude 6430u. This Windows 8–equipped business ultrabook deftly blends style and performance with a slick design, excellent keyboard, and superb battery life. It's an easy choice for those who want productivity for work without having to settle for a drab, utilitarian system. —BRIAN WESTOVER

EDITORS' CHOICE



\$1,328



EDITORS' CHOICE



\$279.99

BUDGET

ACER C7 CHROMEBOOK (C710-2055)

Google's Chromebooks have long promised affordability and simplicity, qualities this Acer version delivers in spades. It's faster, better, and lasts longer on battery than other Chromebooks on the market, plus it offers a host of online and offline tools and a healthy mix of local and cloud storage. —BW

DESKTOP REPLACEMENT

APPLE MACBOOK PRO (15-INCH)

Apple's latest 15-inch MacBook Pro takes last year's excellent Retina display upgrade and thinner chassis, and adds a powerful Intel Core i7 processor with integrated graphics that performs like discrete. And at about 9 hours, the battery life is more than adequate for a day's work. It's currently the foremost example of a laptop designed for power users who need to take their time-sensitive projects with them. —BW

EDITORS' CHOICE



\$1,999



LAPTOPS

ULTRABOOK

ACER ASPIRE S7-392-6411

If you're looking for a svelte laptop to show off, yet still be able to do real work the Acer Aspire S7-392-6411 is what you want. It's the current pinnacle of the ultrabook trend and shows the brilliance PC makers can return under Intel's increasingly stringent standards for the category. —BW



EDITORS' CHOICE



\$1,449.99

ULTRAPORTABLE APPLE MACBOOK AIR (13-INCH)

Its fourth-generation Intel Core i5 processor helps the latest 13-inch MacBook Air show decent performance gains, but its outstanding battery life (more than 15 hours) is what really blows away the competition. —BW



EDITORS' CHOICE



\$1,099

GAMING RAZER BLADE

The oh-so-portable 14-inch Razer Blade has you covered when you want to take your gaming on the road, with an Intel Haswell processor and the latest Nvidia graphics. —BW



EDITORS' CHOICE



\$1,999.99

PERIPHERALS & COMPONENTS

MONITOR

ACER B296CL

If you're tired of dealing with the clutter of multiple monitors and their associated cables and power bricks, the time is right to trade up to an ultra-wide monitor such as the Acer B296CL. It's reasonably priced, and offers a generous selection of ports, solid IPS color performance, and an ergonomic stand.

—LAARNI ALMENDRALA RAGAZA



EDITORS' CHOICE



\$599



EDITORS' CHOICE



\$69.99

MOUSE

CORSAIR VENGEANCE M65

The Corsair Vengeance M65 may be made for gaming, but with its contoured aluminum construction, adjustable 8,200dpi tracking, and rock-solid design, it's also one of the best mice we've seen, period. —BW



KEYBOARD

MICROSOFT SCULPT ERGONOMIC DESKTOP

The Microsoft Sculpt Ergonomic Desktop is one of the best ergonomic devices we've seen, delivering solid Windows 8 features along with the simplicity of wireless and a distinctive, stylish design. —BW

EDITORS' CHOICE



\$129.95



PERIPHERALS & COMPONENTS



●●●●○
\$339

PROCESSOR INTEL CORE I7-4770K

The overclockable Core i7-4770K is Intel's new top-end quad-core CPU based on its Haswell microarchitecture and its second built on the 22nm process node. It's a 3.5GHz chip with a 3.9GHz Turbo speed and formal support for up to DDR3-1600. The CPU includes a number of new capabilities and enhancements, and is a notable step forward in CPU efficiency. Other Intel CPUs offer more cores or faster speeds, but you won't find a better overall balance than you will with the Core i7-4770K. —LAR

VIDEO CARD NVIDIA GEFORCE GTX TITAN

Nvidia's supercomputer-inspired GK110 GPU comes to consumers in the form of this terrific \$1,000 single-GPU card. It packs seven billion transistors, 6GB of RAM, and 2,688 shader cores, and supports supercomputer technologies such as Hyper-Q, Dynamic Parallelism, and GPU virtualization, making it ideal for gaming and compute functions alike. —LAR



EDITORS'
CHOICE

●●●●○
\$999



STORAGE

HARD DRIVE

LACIE 5BIG

This desktop-class external drive gives you an enormous 20TB of storage, available instantly. It's the drive to use when you need constant access to all your work or project data, or if you need the gargantuan capacities of a server without the potential speed hang-ups. —JSD



EDITORS' CHOICE



\$2,199

PORTABLE DRIVE

SEAGATE WIRELESS PLUS

Carrying your entire media library just became a bit easier with the Seagate Wireless Plus. It's a 1TB hard drive with a built-in battery, media server, and Wi-Fi router, so you can easily share videos, photos, and music on the road.

—JSD



EDITORS' CHOICE



\$199.99

SOLID-STATE DRIVE

SANDISK EXTREME II 480GB SSD

The SanDisk Extreme II internal solid-state drive is a fine opening volley into the high-end consumer market. It offers enthusiast-level performance—not what you'd expect from the historically OEM-focused company. —JSD



EDITORS' CHOICE



\$449

USB FLASH DRIVE

LACIE XTREMKEY USB 3.0 (32GB)

The LaCie XtremKey USB 3.0 might be the roughest, toughest USB flash drive we've ever encountered. It will survive insane amounts of abuse, it looks good, and it's a fine flash drive as well. —JSD



EDITORS' CHOICE



\$84.99

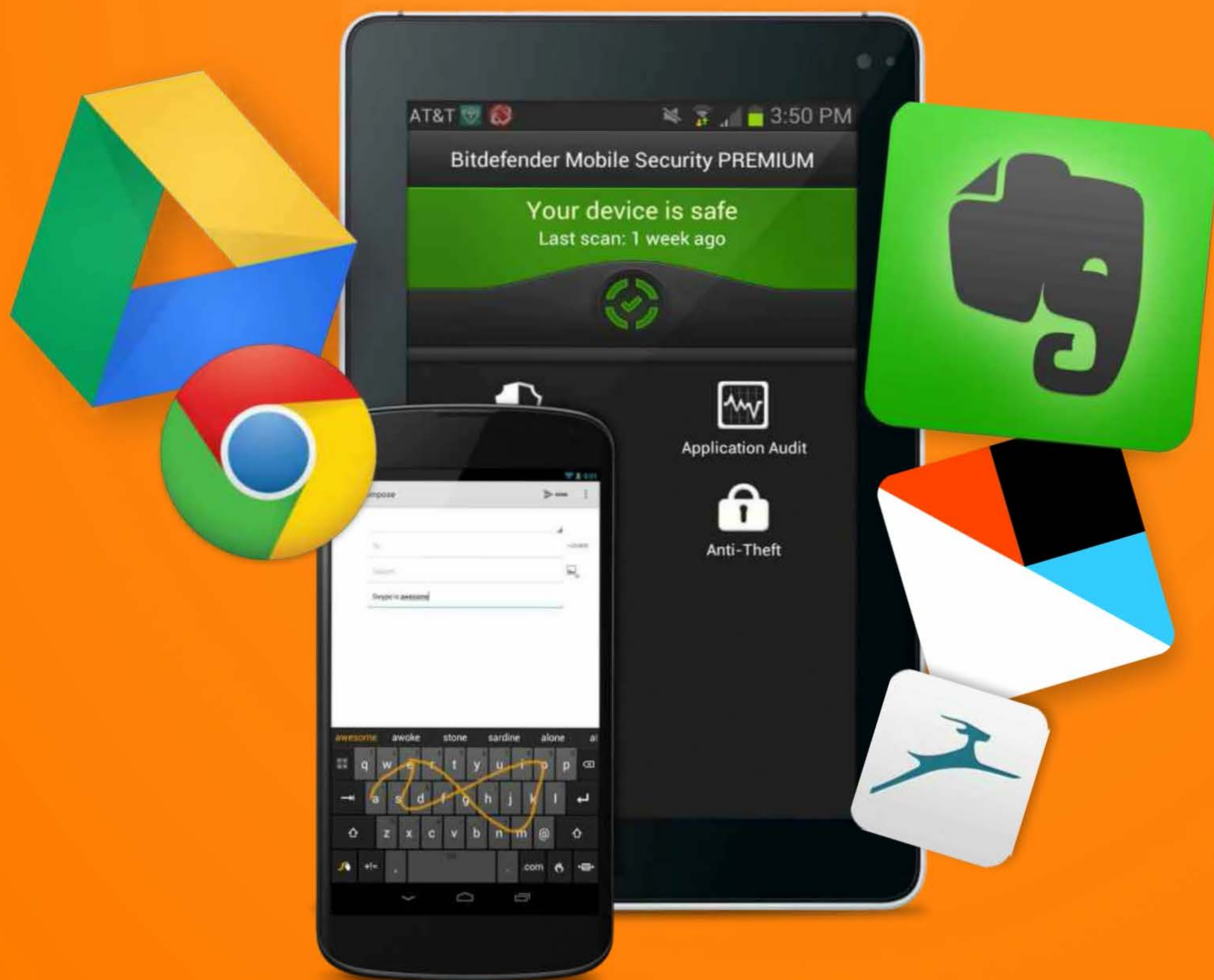
BEST PRODUCTS OF 2013

Your computer, phone, or tablet is only as good as the software you run and the websites you use. Utilities, operating systems, Web apps, and more offer more powerful ways than ever to keep you organized, informed, and secure across all your devices.

BY PC MAGAZINE STAFF

SOFTWARE MOBILE APPS & SECURITY

INTERNET



SOFTWARE & INTERNET

PHOTOGRAPHY/ DESIGN

ADOBE PHOTOSHOP CC

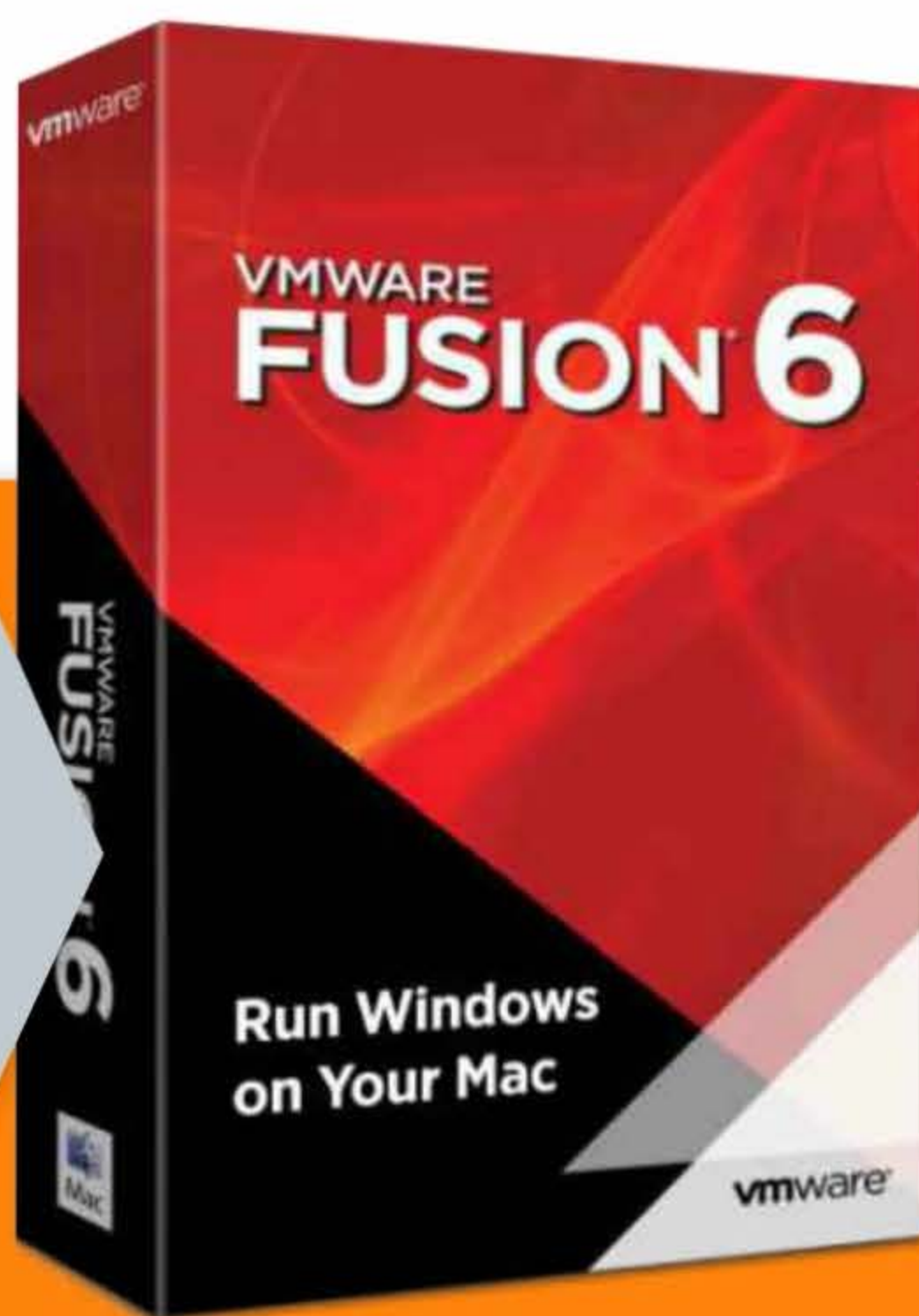
Not only is Photoshop CC the first version to be offered in a reasonably priced, subscription-only format, it offers exciting new imaging possibilities, with the impressive Camera Shake Reduction feature, Smart Sharpen, Intelligent Up Sampling, and Camera Raw as a filter. A lot of what's new targets professionals, with more CSS support, automated asset slicing, and conditional actions. No longer are high-end functions restricted to the Extended edition—you get every Photoshop tool with the subscription—including 3D, video, and image analysis.

—MICHAEL MUCHMORE



**EDITORS'
CHOICE**

● ● ● ● ●
\$19.99/month



**EDITORS'
CHOICE**

● ● ● ● ●
\$49.99

UTILITY

VMWARE FUSION 6

There comes a time when every Mac user just has to access something on Windows. The smooth-running and least obtrusive method on the market is VMWare Fusion 6. It's compatible with hundreds of operating system "guests," so try them all.

—ERIC GRIFFITH

VIDEO EDITING

CYBERLINK POWERDIRECTOR 12

CyberLink PowerDirector is a longtime favorite among prosumer video editors. It offers speedy performance, an intuitive interface, and lots of editing goodies. The latest version now has multicam viewing (up to four angles), 3D and 4K editing and output, direct uploading to sharing sites, and can even author Blu-ray discs.



**EDITORS'
CHOICE**

● ● ● ● ●
\$99.99

SOFTWARE & INTERNET

OPERATING SYSTEM APPLE OS X 10.9 MAVERICKS

Microsoft made some impressive strides this year with Windows 8.1, but OS X remains the smoothest, most reliable, most convenient, and most manageable consumer-level desktop operating system on the planet. Top-notch, unobtrusive security is a major plus; so are its tight integration with social media and the ability to run Windows applications through third-party apps. It's also loaded with useful features and, best of all, it's completely free. —MM



EDITORS' CHOICE



FREE

WEB APP IFTTT

"If This, Then That," or ifttt, is all you need to remember because this amazingly simple yet powerful service can automate just about anything else, from backing up your Facebook photos to sending you text message reminders of upcoming appointments. —JD



EDITORS' CHOICE



FREE



CLOUD STORAGE & SYNC

GOOGLE DRIVE

Part office suite and part file-syncing service, Google Drive retains all the best features and core functionality of its predecessor, Google Docs, while also upping the ante on how much it enables collaboration. It is one sweet package. —JILL DUFFY

EDITORS' CHOICE



FREE



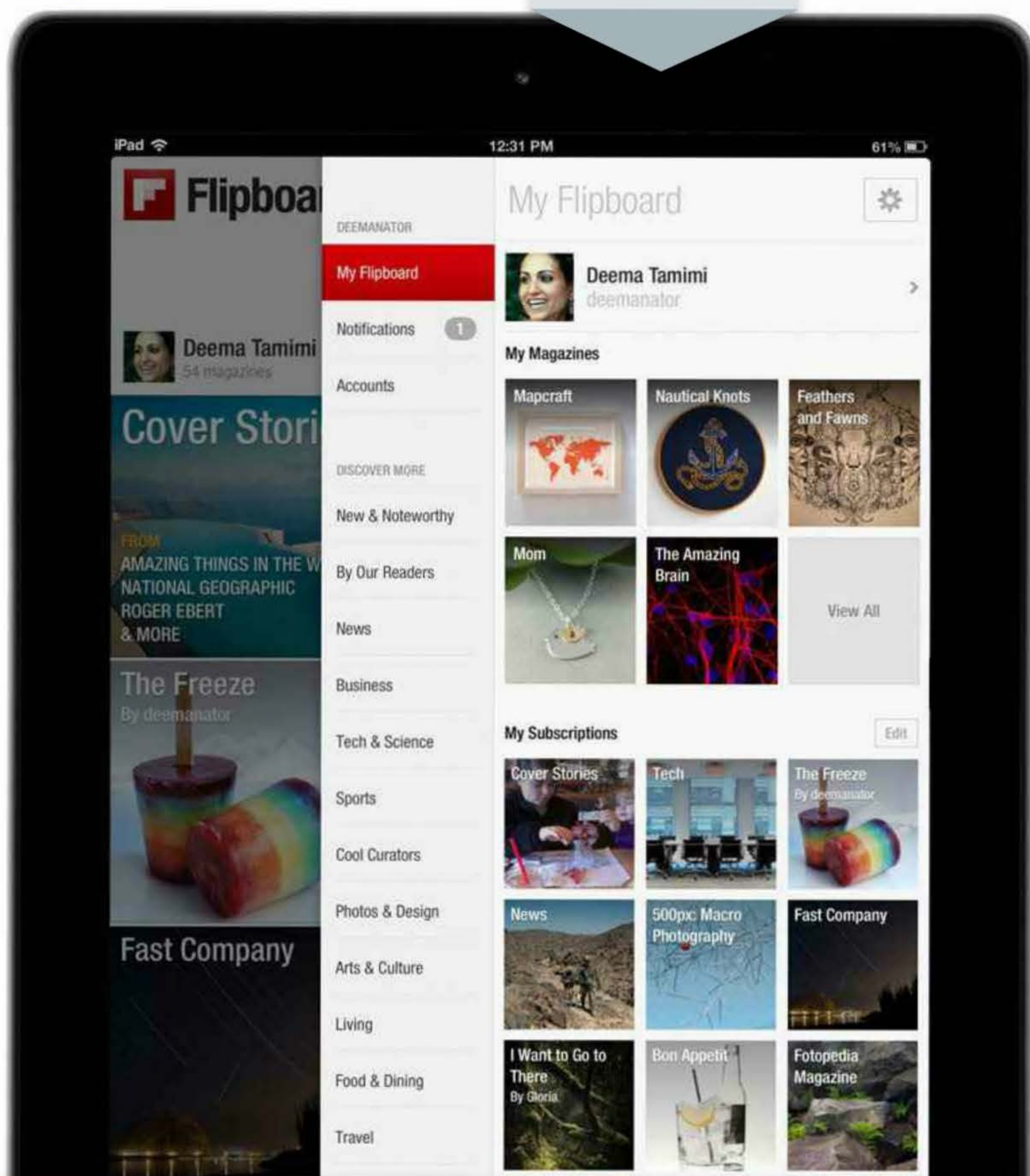
WEB BROWSER GOOGLE CHROME

Our speedy Editors' Choice browser made impressive strides in 2013, offering new support for WebRTC, which lets the browser act like Skype, using your PC's camera and microphone for real-time communication. The search ad giant also added a new set of "app" capabilities, with new desktop widgets that actually run outside of the browser window. All this is added to the ever increasing lead in HTML5 support, speed, and simplicity that distinguish Chrome. —MM

MOBILE APPS

IPAD APP FLIPBOARD

It's been years since Flipboard came out on the iPad, and it's still the best aggregator of news, social networking, links, video, and images on the platform. Even the page swiping is impressively fast. In version 2, users can create and share personalized magazines—and recipients don't even need to have Flipboard installed to read them. —EG



EDITORS' CHOICE



FREE



EDITORS' CHOICE



FREE

ANDROID APP SWYPE

The walled garden of iOS has grown some amazing apps, but the open field of Android has invited incredible innovation at even the most basic level, such as Swype. This application lets you drag your finger between letters to create words and even predicts your next word before you type or swype. Swype also supports gestures for actions like cut and paste, and features several other input methods. It sounds simple, but it's revolutionary and quickly makes thumb-typing feel antiquated —MAX EDDY

IPHONE APP EVERNOTE

When it comes to staying organized and keeping track of ideas and other information, Evernote does the heavy lifting for you. Integrate it with one or two other apps, and you can't do better. Its online synchronization is effortless, and the search is outstanding—it'll even use OCR to search terms inside images. (A premium account with lots of extras costs \$5 per month or \$45 per year). —JD



EDITORS' CHOICE

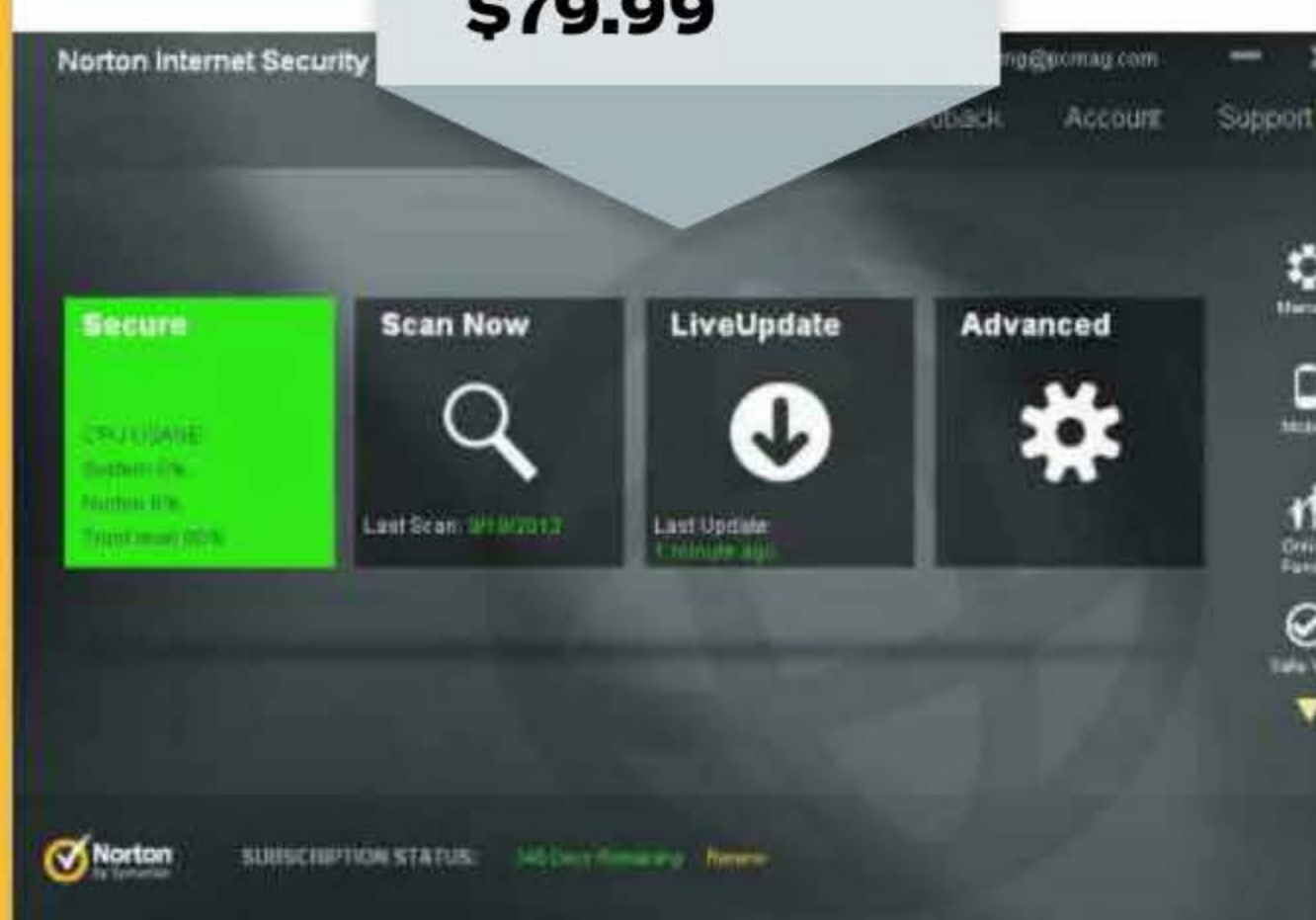
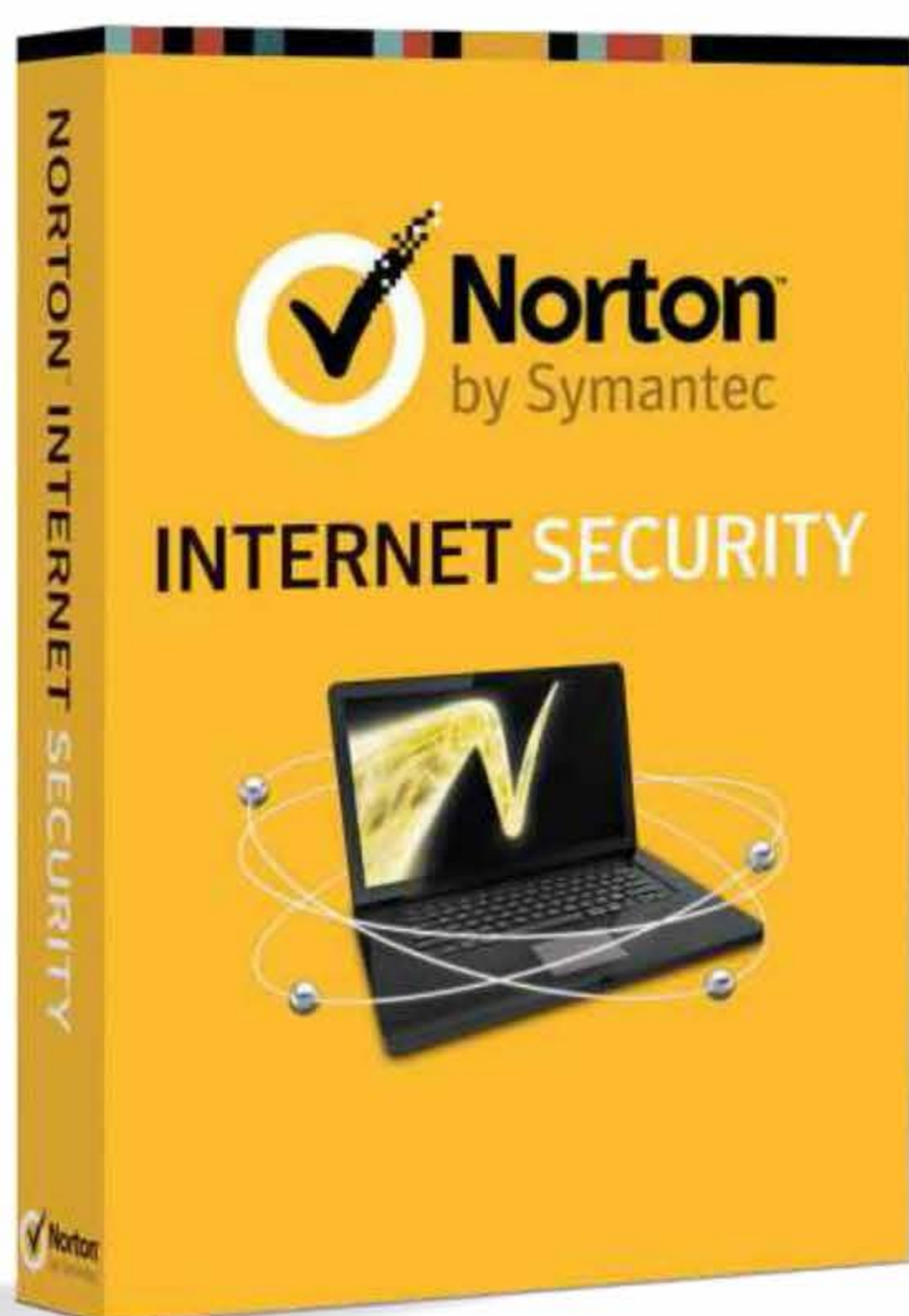


FREE

SECURITY

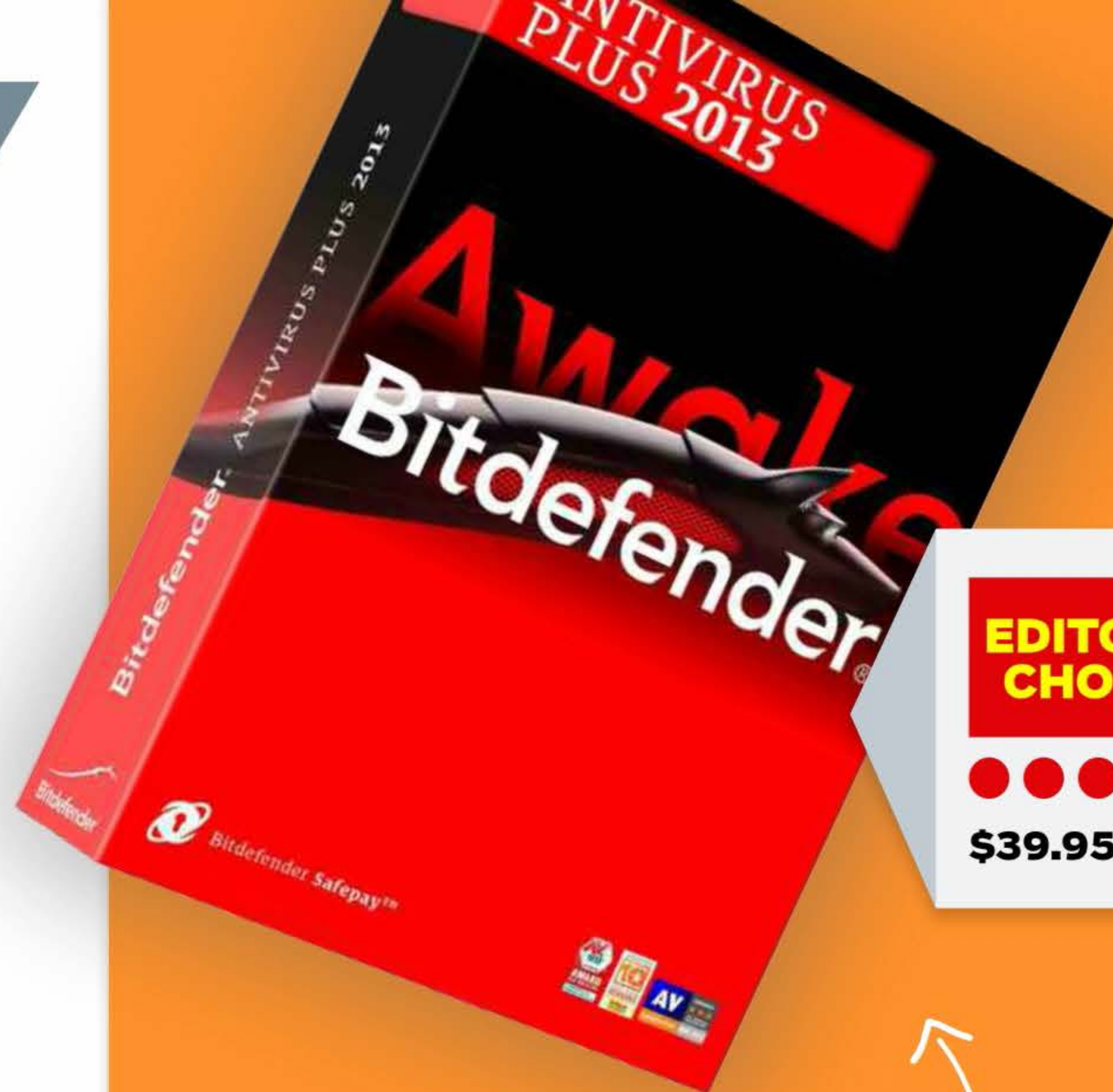
SECURITY SUITE NORTON INTERNET SECURITY

Norton still has it all: excellent blocking of malicious and fraudulent websites; and intelligent firewall that sets permissions for known good programs and monitors unknowns for risky behaviors, without ever popping up a confusing query; multilayered antivirus protection for fending off new threats and rooting out those already present; and antispam tools that keep your inbox clean and protect valid mail. Plus, Norton won't trample your system's performance. —NEIL J. RUBENKING



EDITORS' CHOICE

● ● ● ● ●
\$79.99



EDITORS' CHOICE

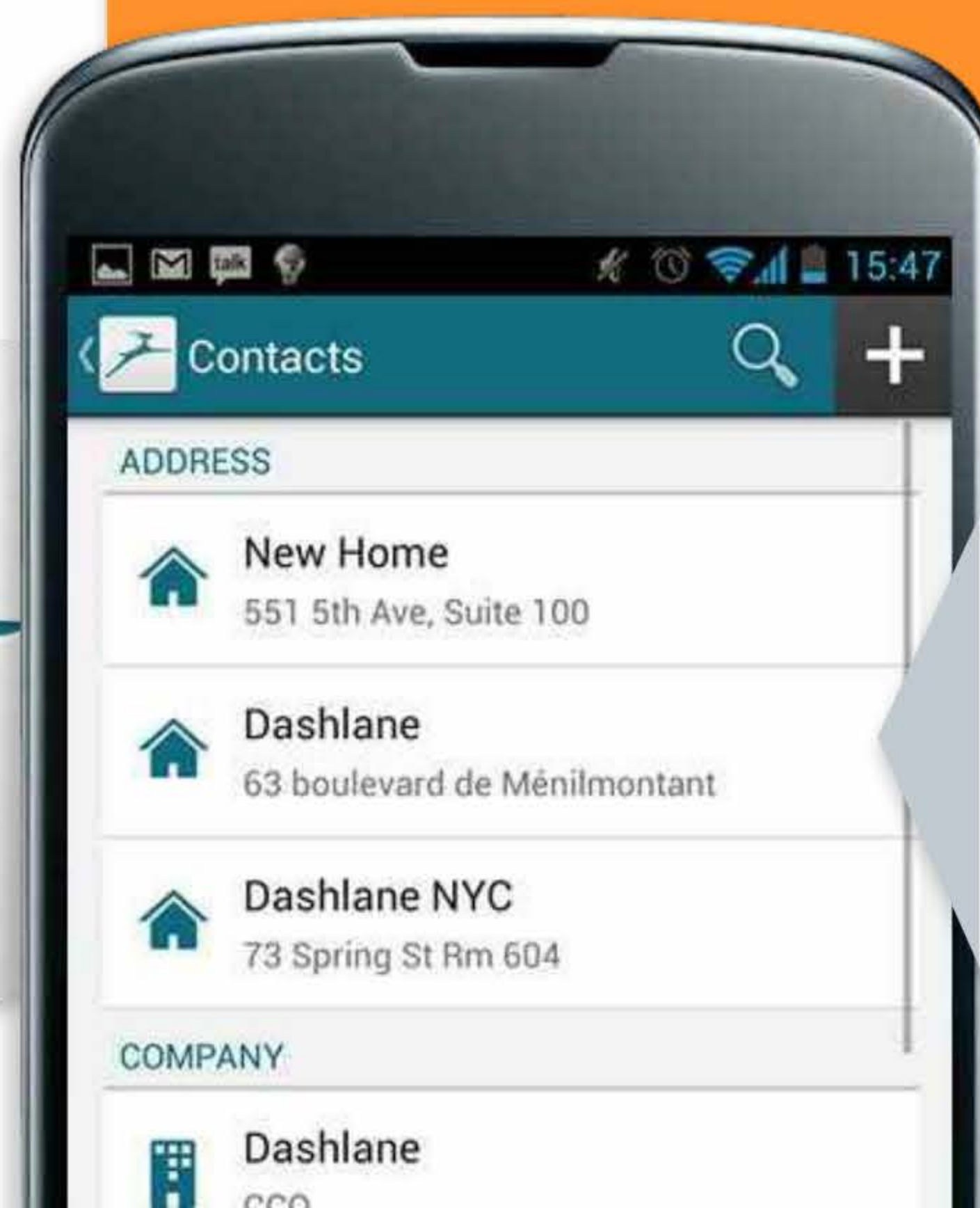
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\$39.95

STANDALONE ANTIVIRUS BITDEFENDER ANTIVIRUS PLUS

Bitdefender's antivirus technology routinely takes top scores in tests by independent antivirus labs and also scored well in our hands-on testing. Antivirus Plus is one of a very few products that detects phishing sites better than Norton, and it can optionally prevent transmission of private data out of your computer. The new Wallet stores passwords and personal data, the SafePay secure browser protects financial transactions, and SafeGo flags dangerous links in your Facebook profile. It even finds unpatched security vulnerabilities. —NJR

PASSWORDS DASHLANE 2.0

Dashlane generates, manages, and protects all of your passwords, and version 2.0 is better than ever, with automatic form field capture, security breach alerts, secure sharing of login credentials, and a new browser extension for Firefox and Chrome. —NJR



EDITORS' CHOICE

● ● ● ● ●
FREE

SECURITY

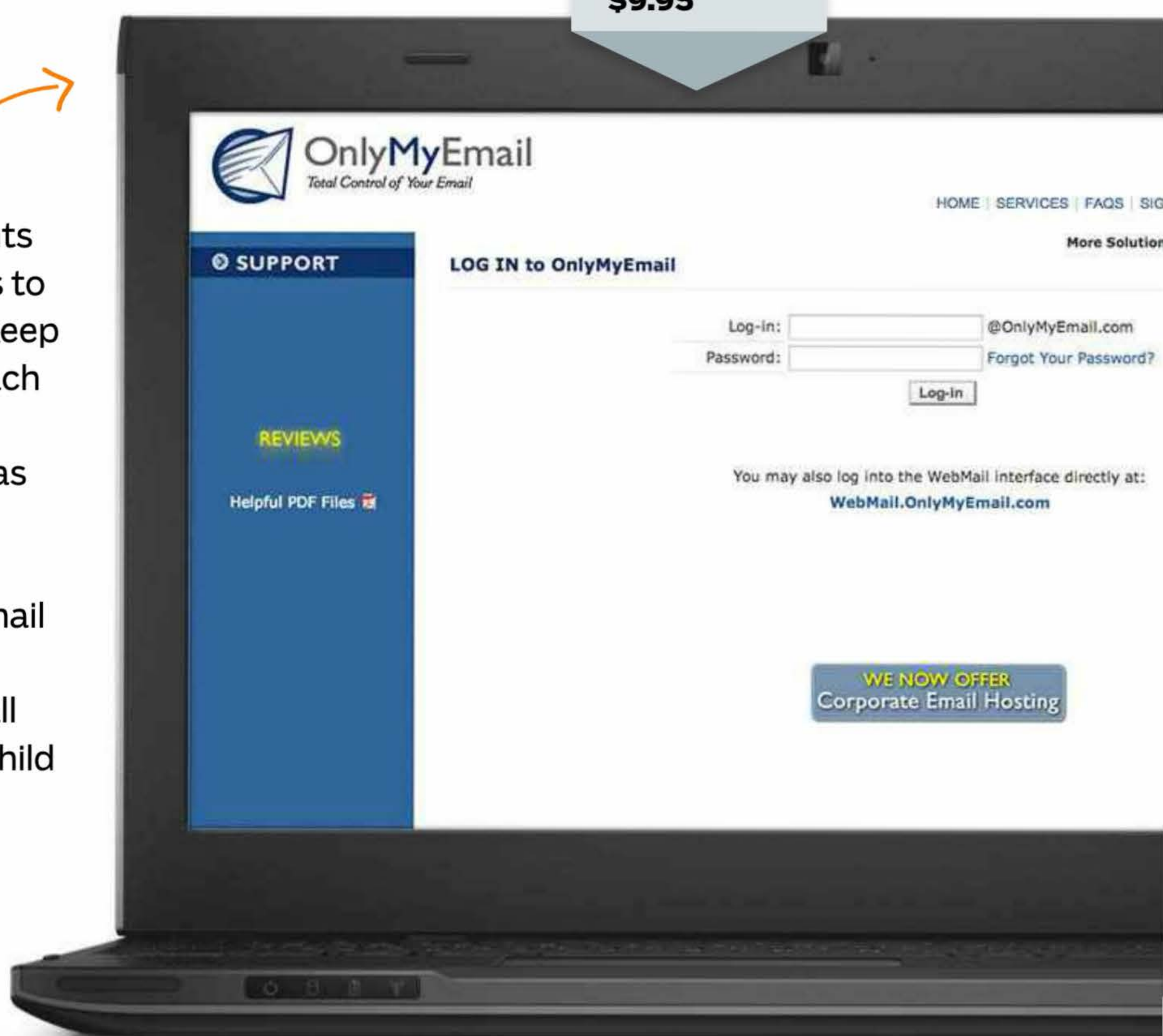
EDITORS' CHOICE



\$9.95

PARENTAL CONTROL OME-KIDS

Setting up OME-Kids email accounts for your children gives them access to spam-free email while letting you keep an eye on their correspondence. Each OME-Kids account gets the same extremely accurate spam filtering as OnlyMyEmail Personal. You can control the child's email activity at different levels: Hold all incoming mail pending parental approval, review received mail, or just get a BCC of all messages the child sends. As the child gets older, you can step down the monitoring level and allow more privacy. —NJR



MOBILE SECURITY BITDEFENDER MOBILE SECURITY AND ANTIVIRUS 1.2.3 (ANDROID)

To fully protect your phone, a security app needs to bring together protection from malicious software as well as tools to keep your phone safe from loss and theft. Bitdefender for Android does both gracefully, and for a reasonable \$9.99 per year—far less than many other big-name competitors. With it, you can also use SMS commands to take control of your phone when it's missing, and evaluate how much of your private information each app accesses. It's lightweight and laser-focused on security. —ME

BEST PRODUCTS OF 2013

Need to communicate, whether by Wi-Fi, digital file, or even paper? These products give you lots of ways to do just that, and provide unprecedented feature sets at prices that (for the most part) won't put a permanent debt in your or your business' bank account.

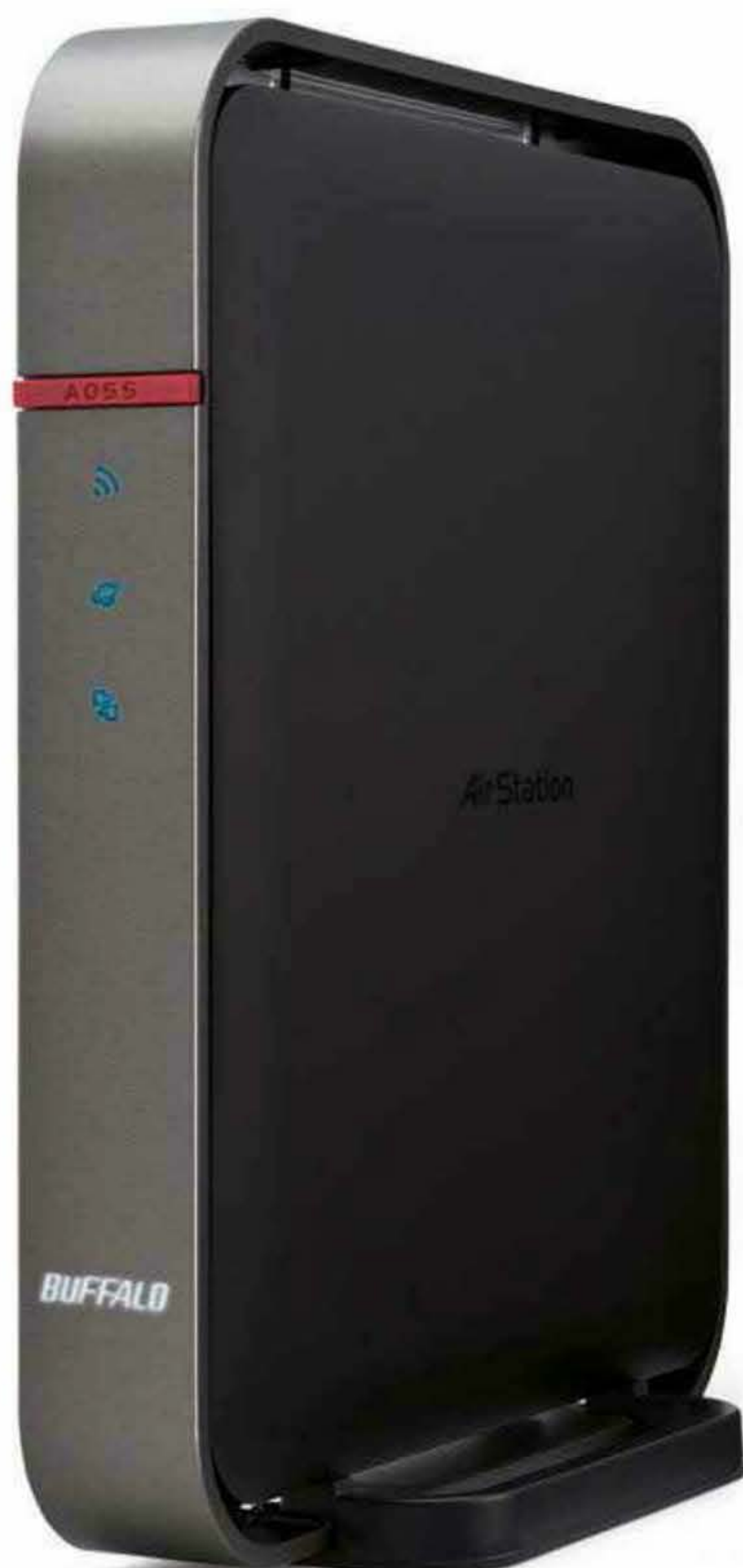
BY PC MAGAZINE STAFF

NETWORKING PRINTERS & PROJECTORS

SCANNERS



NETWORKING



ROUTER BUFFALO AIRSTATION EXTREME AC 1750 GIGABIT DUAL BAND WIRELESS ROUTER

Buffalo's AirStation Extreme AC1750 Gigabit Dual Band Wireless Router offers good performance and the latest wireless networking standard, 802.11ac. An extremely well-designed and powerful user interface caps off this premium, feature-rich, dual-band router, which can also operate as an access point or wireless bridge.

—SAMARA LYNN



**EDITORS'
CHOICE**

● ● ● ● ● ○
\$189.99

NAS (SOHO/ PROSUMER) SEAGATE CENTRAL

The Seagate Central is simply the best fixed, single-drive NAS device we've tested, and is ideal for sharing and streaming files throughout your home network. Seagate also provides a complimentary remote access service, so you can access your data anywhere, any time. —SL



**EDITORS'
CHOICE**

● ● ● ● ● ●
\$1,000

NAS (SMB) SYNOLOGY DISKSTATION DS1812+

With capacity of up to 32TB—that can be expanded to 72TB!—and top-notch performance, this box can handle anything an SMB could think to throw at a NAS. The often-dreary task of storage management is brightened by Synology's Hybrid RAID technology and the ease of configuring the unit's fault tolerance. —SL



**EDITORS'
CHOICE**

● ● ● ● ● ○
\$159.99 & up

NETWORKING

NETWORK UTILITIES

WD MY CLOUD (ANDROID)

The WD My Cloud app is a companion to Western Digital's My Cloud NAS device, delivering a surprisingly robust level of data management as well as excellent remote access. A well-designed interface makes it a snap to manage the My Cloud from any smartphone. —SL



EDITORS' CHOICE



FREE

NETWORK APPLIANCES

KERIO OPERATOR 1210

The Kerio Operator Box 1210 is a full-featured small-business VoIP in a compact box. Good security tools, detailed reporting, and extensive administrative functions sweeten the deal. —SL



EDITORS' CHOICE

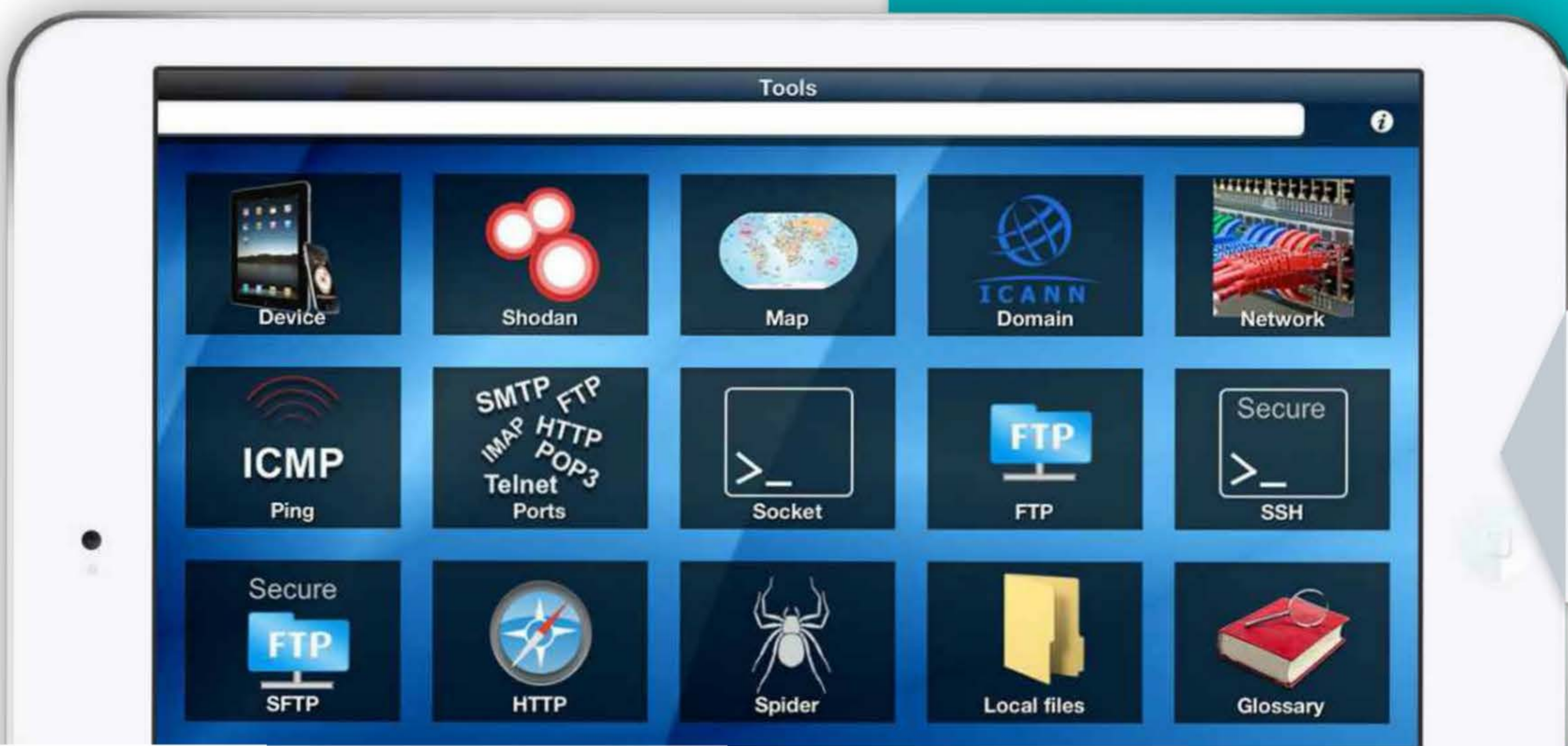


\$900

NETWORK MANAGEMENT TOOLS

NETWORK TOOLBOX (IOS)

The intuitive Network Toolbox turns your iOS device into a networking toolkit. It's a one-stop, central console chock full of networking utilities such as SHODAN, FTP, Telnet, Ping, and more. —SL



EDITORS' CHOICE



\$5.99

PRINTERS

SMALL-OFFICE INKJET

HP OFFICEJET PRO X551DW PRINTER

A winning balance of speed, output quality, paper handling, low cost per page, and additional features such as mobile printing makes the HP Officejet Pro X551dw Printer a smart pick over its direct competition. Its print quality could be a little better, but for most workplaces the X551dw hits all the right marks.

—TONY HOFFMAN

EDITORS' CHOICE



\$599



EDITORS' CHOICE



\$120

PERSONAL MONO LASER SAMSUNG XPRESS M2625D

The Samsung Xpress M2625D printer offers unusually capable paper handling for personal use. In addition to an automatic duplexer, it includes a 250-sheet paper tray and a one-page manual feed slot, so you don't have to swap out paper every time you want to print on a different paper stock. Its paper handling, solid speed and output quality, and small size make this a highly attractive printer for the price. —TH

SMALL OFFICE MONO LASER MFP SAMSUNG MULTIFUNCTION XPRESS M2875FW

The Samsung Multifunction Xpress M2875FW has lots of strong points and no notable weaknesses. Its speed, output quality, paper handling, multifunction printer basics, and small conveniences—Wi-Fi Direct, the ability to copy single-sided originals to double-sided copies—all add up to the proverbial “more than the sum of its parts.” That's enough to make it an excellent fit for a micro or small office. —TH

EDITORS' CHOICE



\$280



PRINTERS

SMALL OFFICE COLOR INKJET MFP HP OFFICEJET PRO X576DW

Outside, the HP Officejet Pro X576dw Multifunction Printer's fast speed, high-quality output, excellent paper handling, and the conveniences a 4.3-inch touch screen allows, combined with a long list of MFP features, put it way out in front of the pack, even before considering its low cost per page. This laser-class inkjet looks like a laser, feeds paper like a laser, and performs like a laser. —TH



3D PRINTER TYPE A MACHINES SERIES 1

The Type A Machines Series 1 is geared toward professionals and hobbyists: It's relatively easy to set up and operate, versatile, and can print large, good-quality objects in a range of resolutions. —TH



SMALL OFFICE COLOR TABLOID SIZE MFP BROTHER MFC-J6920DW GTX 780 SLI

If you need a tabloid-size (11-by-17-inch) MFP that's both inexpensive and loaded with features, the Brother MFC-J6920DW may be what you're looking for. It's perfect for a micro or small office needing to print and scan at tabloid size. Its combination of duplex scanning, NFC, and large touch screen make it appealing for users who need any or all of these features. —TH

PROJECTORS

INTERACTIVE DATA PROJECTOR EPSON BRIGHTLINK 436WI

The Epson BrightLink 436Wi Interactive WXGA 3LCD Projector brings Epson's leading-edge interactive features (such as automatic calibration) to a more affordable projector. The 436Wi also offers an attractive balance of image quality, brightness, and price. Unless you need 3D support, it's the short-throw, interactive projector you want. —TH



**EDITORS'
CHOICE**



\$899

MOBILE PROJECTOR NEC NP-M311W

This LCD-based projector delivers a bright image, WXGA (1,280-by-800) resolution, 1.7x zoom lens, long lamp life, near-excellent data image quality, and better video quality than most data projectors can offer, plus it is reasonably portable. If you don't require 3D or a short-throw lens, it's a compelling choice. —TH



**EDITORS'
CHOICE**



\$2,899

HOME THEATER PROJECTOR WITH 3D EPSON POWERLITE HOME CINEMA 5020UBE

The Epson PowerLite Home Cinema 5020UBE is impressive for its price. It delivers high-quality 2D and 3D images, a wide range of brightness settings, and advanced features that include an unusually large zoom and lens shift, an auto-iris, frame interpolation, super-resolution, and more. —TH

HOME ENTERTAINMENT PROJECTOR WITH 3D EPSON POWERLITE HOME CINEMA 3020E

The 3020e offers high-quality 2D and 3D at full 1080p, both as a home theater projector and as a home entertainment projector that stands up to ambient light. It works directly with HDMI 1.4a devices such as Blu-ray players, and is an excellent low-cost 3D home theater projector. —TH

**EDITORS'
CHOICE**



\$1,899



SCANNERS

SMALL OFFICE DOCUMENT SCANNER

XEROX DOCUMATE 5445

This highly capable desktop scanner delivers fast speed with duplex (two-sided) scanning, an assortment of world-class software, and features such as a 75-sheet automatic document feeder. Its balance of speed, input capacity, duty cycle, and price, along with its well-chosen set of application programs and capable scan utility, make this an excellent choice for moderately heavy-duty use in a small office or workgroup. —TH



EDITORS' CHOICE



\$1,195



EDITORS' CHOICE



\$149.99

PERSONAL PORTABLE PHOTO SCANNER

FLIP-PAL MOBILE SCANNER

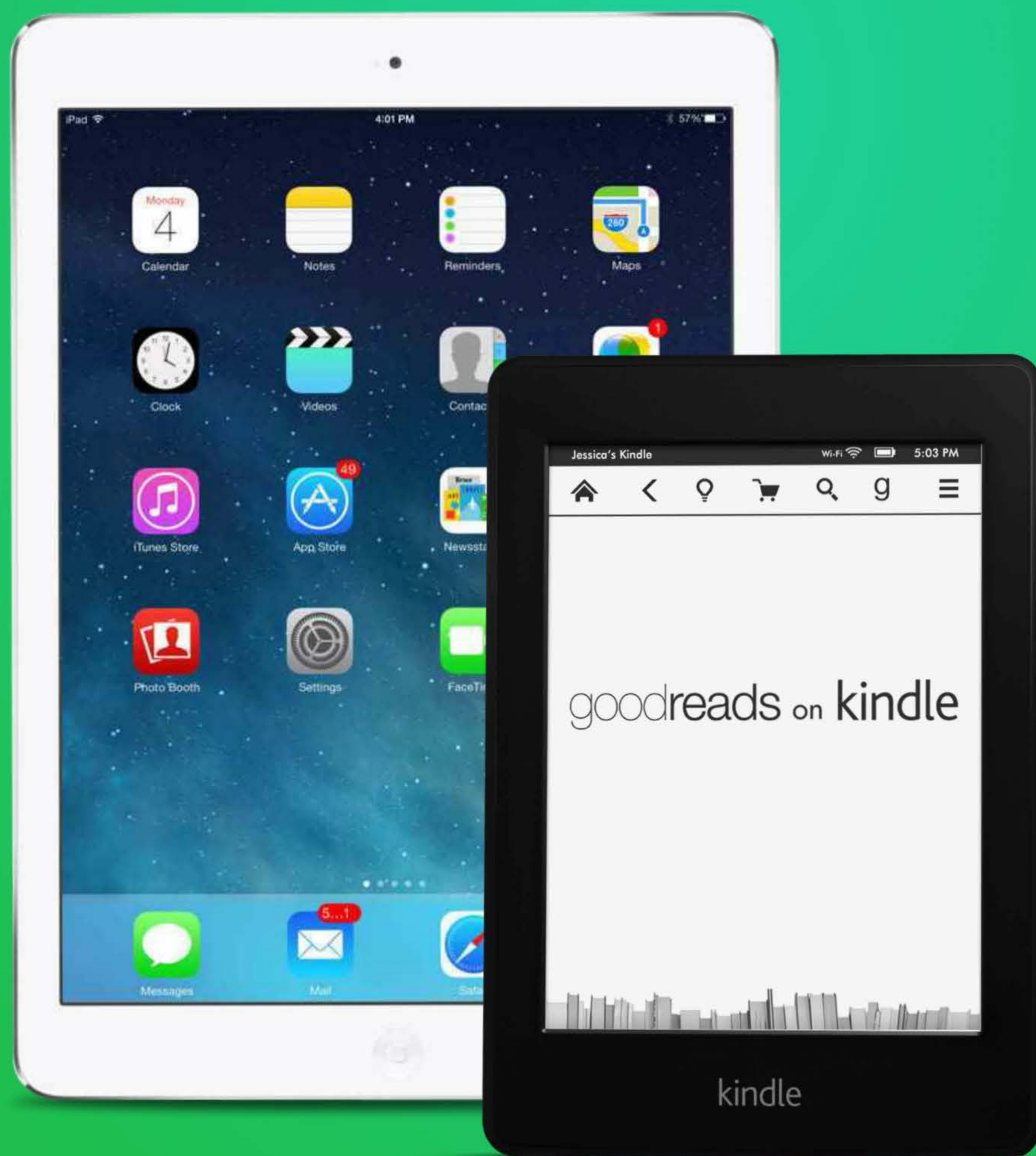
The Flip-Pal mobile scanner offers an innovative design with PC-free scanning, a 4-by-6 flatbed, and a 2GB SD card. It has a neat trick for scanning originals that won't fit under the flatbed lid: Take off the lid, turn over the scanner, and place the glass on top of the item to be scanned. The scan quality is good and as a flatbed scanner it eliminates the risk of mangling photos or delicate documents that's possible with a sheet-fed scanner. Its 1.7-inch LCD lets you preview scans on the spot. —TH

BEST PRODUCTS OF 2013

The mobile revolution is here, and 2013 saw some of the best products yet that let you take your tech anywhere. Whether you want to make calls, read, find your way around unfamiliar geography, or even just get online, these winners will help you make it happen.

BY PC MAGAZINE STAFF

TABLETS MOBILE DEVICES EBOOK READERS



TABLETS & EBOOK READERS

SMALL-SCREEN TABLET

GOOGLE NEXUS 7

The Nexus 7's \$229 price is an amazing value, but Google's flagship tablet would still be a good buy even if it cost more. Its high-res screen is extremely sharp, battery life is long, and the tablet's body is narrow enough to hold comfortably in one hand. This tablet makes a perfect ereader or backseat entertainment gadget. —SASCHA SEGAN



EDITORS' CHOICE



\$269.99



EDITORS' CHOICE



\$499-\$929

LARGE-SCREEN TABLET

APPLE IPAD AIR

The Air isn't a radical break from Apple's previous iPads, but it doesn't need to be. It's a well-built, slim, and light platform for a terrific range of tablet apps, with an unusually fast processor and a much lighter frame than last year's model, but with no loss of battery life. As with previous iPads, it's close to a no-brainer.

—SS

IPAD ACCESSORY BELKIN ULTIMATE KEYBOARD CASE

Keyboard cases for the iPad generally come in either traditional folio or thin-and-light cover styles, but both have their drawbacks. This case splits the difference, combining solid protection, sleek design, and a comfortable keyboard in one terrific package. —EUGENE KIM

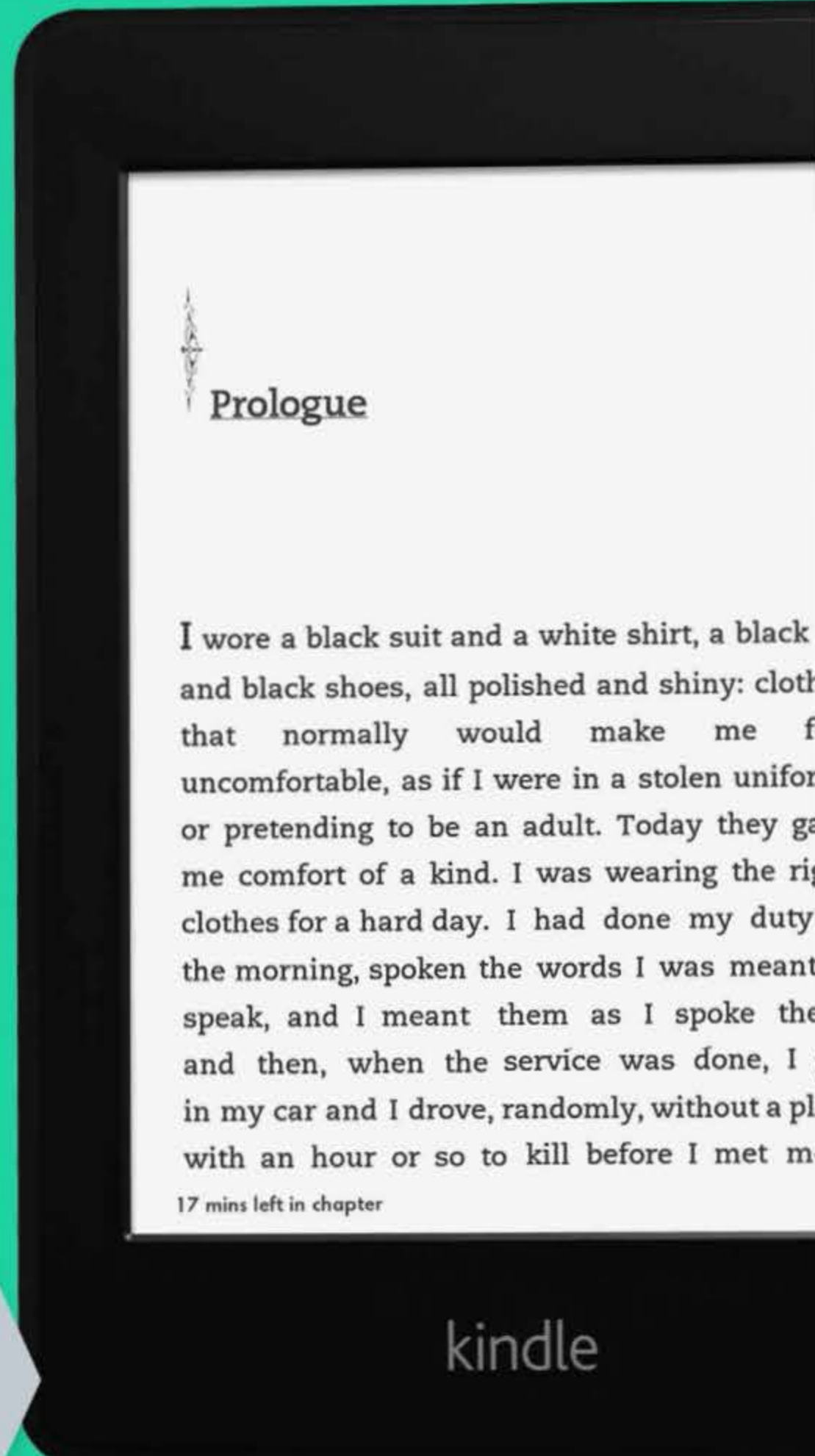


\$99.99

EBOOK READER AMAZON KINDLE PAPERWHITE

Amazon's revised Paperwhite is faster and more refined than last year's model, with brighter edge lighting and lots of useful new features. It's comfortable to hold and lasts for weeks on a battery charge. Plus, Amazon's ebook store and overall app ecosystem remain the best in the business.

—JAMIE LENDINO



EDITORS' CHOICE



\$119 & up

MOBILE DEVICES & NETWORKS

BEST PHONE IT'S A TIE!

SAMSUNG GALAXY S4

Samsung's flagship smartphone is the Microsoft Office of mobile phones: It has something for everyone. Light and slim, the S4 is nonetheless laden with an amazing number of features, from a simplified Easy Mode to special camera modes that let insert yourself into a shot or take photobombers out of one.

APPLE IPHONE 5s

The Apple iPhone 5s may be the same size as last year's iPhone, but its more powerful hardware and software make a major difference. This first 64-bit phone on the market is also the first with a usable fingerprint reader, and it has one of the two best camera phones out there—and, of course, it runs Apple's unparalleled library of third-party apps. —ss

BEST MOBILE NETWORK VERIZON WIRELESS 4G LTE

AT&T's network is the fastest, but Verizon's is the best. How'd that happen? The two big carriers weren't far apart in our Fastest Mobile Networks study, but the huge differential in our Reader's Choice study landed Verizon in a solid first place. As the only truly national LTE network, Verizon has you covered. —ss

PCMAG.COM
2013 FASTEST
MOBILE
NETWORK
Plan prices vary



EDITORS'
CHOICE

● ● ● ● ●
\$199 & up

EDITORS'
CHOICE

● ● ● ● ●
\$79.95

IPHONE ACCESSORY UNU DX PROTECTIVE BATTERY CASE FOR IPHONE 5

Find yourself scrambling for a charge by midday? Cast away your worries with the Unu DX battery case, which will more than double your iPhone's battery life without adding much bulk. It outperforms many more expensive options, making it an excellent value. —EK

EDITORS'
CHOICE

● ● ● ● ●
\$199.99



MOBILE DEVICES & NETWORKS



**EDITORS'
CHOICE**

● ● ● ● ● ○
\$379.99

GPS NAVIGATION

GARMIN NÜVI 3597LMTHD

Garmin's long experience in the GPS navigation game shows with this top-end model, which includes a 5-inch glass capacitive display with a sharp 800-by-480 resolution. In a world of free smartphone GPS apps, the expensive nüvi 3597LMTHD earns its keep thanks to beautiful 3D terrain mapping, photorealistic 3D lane assistance, a brilliant magnetic mount, and better natural-language voice prompts. —JL

SMARTWATCH PEBBLE

Smartwatches are still in their infancy, but the Pebble is the closest to realizing their potential. Its good looks, useful notification support, and growing list of features (thanks to third-party development) make the Pebble a far better choice than anything else currently out there. —EK



**EDITORS'
CHOICE**

● ● ● ● ● ○
\$150

BLUETOOTH HEADSET

PLANTRONICS BACKBEAT GO 2

Plantronics stepped up its well-respected BackBeat stereo Bluetooth line this year with the BackBeat Go 2, which delivers solid sound quality, a sweat-proof nano-coating and a comfortable fit at an eminently reasonable price. —ss



**EDITORS'
CHOICE**

● ● ● ● ● ○
\$79.99

**EDITORS'
CHOICE**

● ● ● ● ● ○
\$49.99



CELLULAR MODEM OR HOTSPOT

VERIZON JETPACK 4G MHS291L

A hotspot should always be able to connect. Verizon's Jetpack 4G MHS291L has the longest battery life of any hotspot we've tested: more than 14 hours of solid LTE streaming on one charge. —ss

BEST PRODUCTS OF 2013

Whether you want to preserve your most important memories, or even just take in your favorite videos and songs, these outstanding media products released this year will make doing so easier—and more fun—than it's ever been before.

BY PC MAGAZINE STAFF

CAMERAS HDTVS & HOME THEATER



A C C I D I O

CAMERAS & CAMCORDERS

EDITORS' CHOICE



\$329.99

SUPERZOOM CANON POWERSHOT SX280 HS

If you want a lot of zoom in a form factor that can slide into your pocket, the Canon PowerShot SX280 HS does the trick. Its 12-megapixel, 1/2.3-inch image sensor isn't the largest you'll find in a pocket camera, but you can still shoot at moderate sensitivity settings without significant detail loss. The camera is also impressively small, especially when you consider that it houses a 20x zoom lens and packs built-in Wi-Fi and GPS. —JIM FISHER



POINT-AND-SHOOT CANON POWERSHOT ELPH 330 HS

The Canon PowerShot Elph 330 HS is the camera to get if you're looking for something compact without breaking the bank. It's the best camera we saw this year for less than \$250, thanks to sharp optics, impressive performance in low light, an 8x zoom lens, and built-in Wi-Fi. —JF

EDITORS' CHOICE



\$229.99

BUDGET POINT-AND-SHOOT

CANON POWERSHOT A1400

If you're looking to spend around \$100 for a digital camera, the AA-powered Canon PowerShot A1400 is a solid choice. Like other CCD cameras it's not the best in low light, but it does pack a sharp 5x zoom lens, and it's one of the few compact cameras of you'll see with an optical viewfinder. —JF



EDITORS' CHOICE



\$109.99

CAMERAS & CAMCORDERS

D-SLR

NIKON D7100

Nikon's D7100 is everything a premium APS-C D-SLR should be. It has a bright pentaprism viewfinder, a lightning-quick autofocus system, and loads of physical controls. Wildlife and sports shooters will appreciate the 6fps burst rate, and there's a vertical battery grip available for anyone who prefers a beefier camera. —JF



EDITORS' CHOICE



\$1,199.95
Body only

FULL-FRAME D-SLR

CANON EOS 6D

The Canon EOS 6D brings full-frame to the masses at a price point that, though not cheap, is within the reach of enthusiastic photographers. The huge image sensor does well in low light, and when paired with a wide-aperture lens delivers an impressively shallow depth of field. The 6D can shoot at 4.5fps and adds an integrated GPS and Wi-Fi—and its body is impressively compact. —JF



EDITORS' CHOICE



\$2,099
Body only

LENS

LEICA APO-SUMMICRON-M 50MM F/2 ASPH.

You simply won't find a better 50mm lens than the Leica APO-Summicron-M 50mm f/2 ASPH. It's absurdly sharp from edge to edge, shows no distortion or chromatic aberration, and is impressively compact. You'll want to pair it with a full-frame (or 35mm) rangefinder or to get the most out of it. —TH



EDITORS' CHOICE



\$7,195

CAMERAS & CAMCORDERS

PRIME-LENS COMPACT RICOH GR

The Ricoh GR puts a D-SLR-sized APS-C image sensor into the body of a camera that slides snugly into your jeans pocket. The prime lens doesn't zoom, instead giving you a fixed 28mm-equivalent field of view. It's an f/2.8 design that's sharp from edge to edge, with a 16-megapixel sensor that is impressive through ISO 3200. Couple that with excellent physical controls and a sharp, bright rear LCD and you have a camera that will wow you. —JF



**EDITORS'
CHOICE**



\$799.99

RUGGED POINT- AND-SHOOT OLYMPUS TOUGH TG-2 IHS

The TG-2 isn't that different from Olympus' first fast-lens rugged camera, the TG-1, but a few modest improvements and a lower price point make it a winner. The lens opens to f/2 at its widest angle, and the TG-2 is rated for use in up to 50 feet of water. It's also rated to survive 7-foot drops, operate in temperatures as low as 14°, and withstand external pressure of up to 220 pounds. —JF



**EDITORS'
CHOICE**



\$379.99



**EDITORS'
CHOICE**



\$1,399.99
Body only

HIGH-END MIRRORLESS OLYMPUS OM-D E-M1

The OM-D E-M1 isn't perfect, but it's close. The top-end Micro Four Thirds body is an all-weather shooter with an outstanding EVF, five-axis image stabilization, fast autofocus, and impressive burst shooting. It does well in low light, and even packs Wi-Fi for remote camera control and easy image transfer to your smartphone. —JF

CAMERAS & CAMCORDERS

PREMIUM POINT-AND-SHOOT

SONY CYBER-SHOT DSC-RX100 II

The Sony Cyber-shot DSC-RX100 II is an upgraded version of the RX100, which found itself in this spot last year. It still features a compact body with a 1-inch image sensor and 28-100mm f/1.8-4.9 Zeiss lens, but adds a tilting rear display, a hot shoe, and Wi-Fi, and turns out better low-light photos. It's the best compact digital camera with a zoom lens we've seen. —JF



EDITORS' CHOICE



\$749.99

CAMCORDER

GOPRO HERO3 BLACK EDITION

Adventurous outdoorsmen know that GoPro cameras are tough, small enough to mount on your body, or on a snowboard, surfboard, or skateboard. Add a waterproof housing and this camera can capture your extreme, possibly insane, hobby of choice. The Hero3 Black Edition ups the video quality and adds Wi-Fi. —JF



EDITORS' CHOICE



\$399.99



EDITORS' CHOICE



\$199

WEBCAM DROPCAM PRO

Dropcam's approach to the surveillance market is software first. Its CVR, or "cloud video recording," is proof of that, and the service will cost you. But the hardware also shines. The latest Dropcam improves on the old in every way with better optics, a wider angle lens, and a slick-looking black paint job. You don't need to pan or tilt—the sensor is so big that even zooming digitally looks pretty amazing. For ease of use, PC-free setup, sharing video streams, and monitoring from anywhere, the Dropcam Pro is a winner.

—ERIC GRIFFITH

HDTV & HOME THEATER

HIGH-END HDTV SAMSUNG PN60F8500

Plasma's decline isn't stopping the technology from producing some amazing screens. Samsung's high-end PN60F8500 is a beautiful 60-inch plasma HDTV that has one of the best contrast ratios we've seen. It's loaded with features and stylish design aspects, including online media and social network services, voice commands, a touchpad remote, and even a built-in camera for video chat. —WILL GREENWALD

EDITORS' CHOICE

● ● ● ● ●
\$2,799.99



BLU-RAY PLAYER OPPO BDP-103

Few people pay attention to Blu-ray players these days, but there are still some models targeted at high-end home theater enthusiasts. The Oppo BDP-103 offers 4K upscaling and 2D-to-3D conversion, and has both dual HDMI and 7.1-channel analog audio outputs. —WG

EDITORS' CHOICE

● ● ● ● ●
\$499



BUDGET HDTV VIZIO M551D-A2R

You don't need to spend a lot of money for an excellent, 3D-capable HDTV. The Vizio M551D-A2R can be found for just over \$1,000, and its 55-inch LED screen offers very good contrast and color accuracy for the price. It has a passive 3D screen, comes with four pairs of glasses, and is loaded with online services and apps. —WG



MEDIA HUB ROKU 2

For less than \$100, the Roku 2 offers more than 1,000 different content channels including big names (Netflix, Hulu Plus) as well as niche services (Crunchyroll, Midnight Pulp). One excellent feature it shares with the higher-end Roku 3: a headphone jack in the remote so you can watch what you want without disturbing your significant other. —WG

EDITORS' CHOICE

● ● ● ● ●
\$79.99



AUDIO

MP3 PLAYER

APPLE IPOD TOUCH

Smartphones are hogging the spotlight now, but there's still plenty of demand for a dedicated music player. The Apple iPod touch delivers much more than that. It's basically an iPhone, complete with a strong processor and fine display, stripped of its calling capability and GPS—meaning you can still run almost all of the 900,000-plus third-party apps and games in Apple's App Store. Oh, and it's ideal for playing music and watching TV shows and movies.

—JAMIE LENDINO



EDITORS' CHOICE

● ● ● ● ●
\$229-\$399



EARPHONES

KLIPSCH IMAGE X7I

The Klipsch Image X7i delivers amazing audio quality for its price range, with tight bass, crisp highs, and a neutral, well-balanced timbre. It's one of the smallest in-canal earphone pairs we've tested, and it's extremely lightweight. Sonically, it's more of a flat-response pair than one that's ideal for those who love boosted bass response; if that sounds good to you, the X7i is the set to get. —JL

EDITORS' CHOICE

● ● ● ● ●
\$199.99



EDITORS' CHOICE

● ● ● ● ●
\$399.99



HEADPHONES

BOWERS & WILKINS P7

MOBILE HI-FI HEADPHONES

Bowers & Wilkins, long known for its luxurious high-end audio speakers, takes its first shot at an over-the-ear headphone pair—and nails it. The P7 sounds exemplary with all kinds of music, its design exudes luxury, and it's extremely comfortable to wear for long periods of time. The P7 isn't inexpensive by any means, but you get everything you pay for, and more. —JL

AUDIO

WIRELESS SPEAKER BOSE SOUNDLINK BLUETOOTH MOBILE SPEAKER II

At just under 3 pounds, the Bose SoundLink Bluetooth Mobile Speaker II is compact and easy to tote. It folds up nicely with the attached cover, which doubles as a power switch, and delivers smooth, balanced sound throughout the frequency spectrum. It also gets surprisingly loud, and can easily fill a sizable room with music. —JL



EDITORS'
CHOICE



\$299.95

PORTABLE WIRELESS SPEAKER

BOSE SOUNDLINK MINI

Bose's 7-inch SoundLink Mini is the best-sounding portable Bluetooth speaker we've tested, with surprisingly full, rich bass and a smooth midrange. It also has a sleek, relatively retro design, and though it fits easily on a desk or bookshelf, the included charging cradle makes the SoundLink Mini easy to bring along for tunes on the go. —JL



EDITORS'
CHOICE



\$199.95



EDITORS'
CHOICE



\$799.99

PC SPEAKERS KEF X300A

The KEF X300A is as close to perfect as we've heard in its price tier. It's an ideal pair of speakers for an apartment, office, or study, and its digital USB connection and 96kHz/24-bit digital-to-analog (D/A) converters ensure pristine sound when connected to a PC or Mac. —JL

SOUNDBAR SONY HT-CT260 HOME THEATER SOUNDBAR

You get a lot for your money with this unusually well-rounded soundbar, including stereo Bluetooth streaming, three sets of inputs, and a remote control. With powerful bass response and a warm overall sound signature, the HT-CT260 is an excellent buy and an easy upgrade for anyone looking to augment their HDTV in a small living room or den. —JL



EDITORS'
CHOICE



\$299.99

BEST PRODUCTS OF 2013

We didn't get the newest PlayStation 4 and Xbox One consoles in time to include them in this list, but lots of other new releases in 2013 help you make the most of your downtime, whether you want to kick back with a game or get exercising outside.

BY PC MAGAZINE STAFF

GAMING DIGITAL HEALTH & FITNESS TOOLS



GAMES & TOYS

PLAYSTATION GAME THE LAST OF US

Naughty Dog, the development house behind the Uncharted and Jax and Dexter series, has created what many have hailed as “the last great PlayStation 3 game.” Fusing action and survival game play to tell a character-driven tale about a world destroyed by the Cordyceps fungus, a growth that transforms humanity into zombie-like monsters (the fungus, in fact, is one that appears in the real world and has unusual effects on its hosts), The Last of Us is moving, action-packed, and deserving of a spot in every PlayStation 3 gamer’s library. —JEFFREY L. WILSON



EDITORS' CHOICE

● ● ● ● ●
\$59.99

EDITORS' CHOICE

● ● ● ● ●
\$59.99



XBOX GAME GRAND THEFT AUTO V

Grand Theft Auto V represents the pinnacle of Rockstar Games’ design talent. Neighborhoods, minigames, animations, voice-overs, radio stations—anything you can think of—are wonderfully realized in the fictional city of Los Santos. Factor in a gang-centric online mode and GTA V becomes the ultimate crime caper of this console generation. —JLW



EDITORS' CHOICE

● ● ● ● ●
\$39.99

PC GAME BIOSHOCK INFINITE

The third installment in Irrational Games’ impressive saga exploring the devastating effects of isolation (and isolationism) on the human psyche, BioShock Infinite combines familiar gameplay elements with exciting new mechanics, an engrossing story, and stunning graphics that make it surprisingly complex and powerful even by the high standards of the BioShock series. — MATTHEW MURRAY

GAMES & TOYS

PORTABLE GAMING DEVICE NINTENDO 2DS

Nintendo's newest handheld is a scaled-back, child-friendly version of the excellent 3DS and 3DS XL systems. It can't display 3D pictures, but it can play every game and run every app the 3DS can, and its lower price and hinge-free design make it very tempting for gamers on a budget or parents who don't want to spend \$170-200 on a device their kids will throw around. — WILL GREENWALD



EDITORS' CHOICE



\$129.99

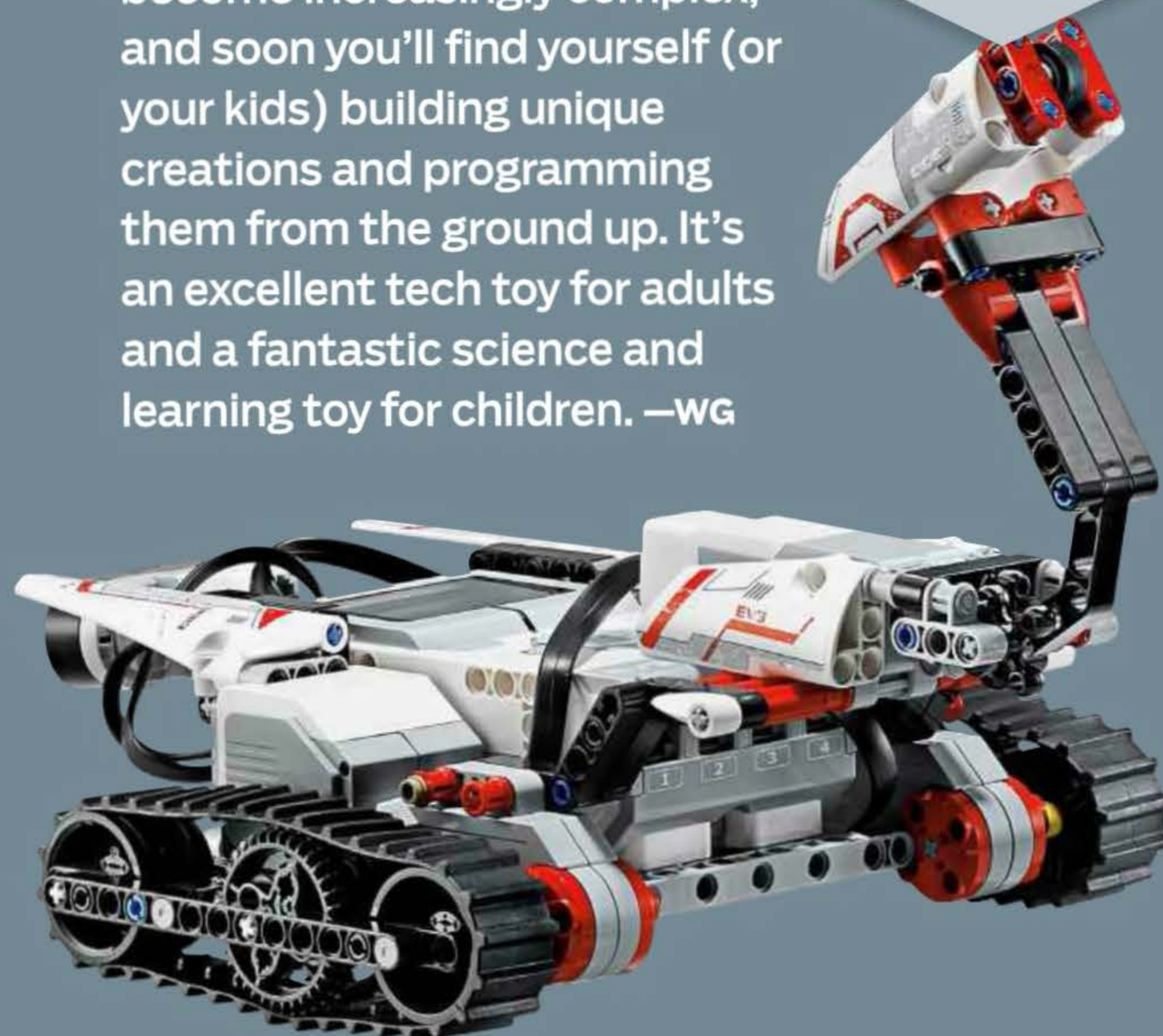
TOY LEGO MINDSTORMS EV3

The newest version of Lego's Mindstorms robotics kit is also the best, with a more powerful brain you can program to do anything. The sample robots start deceptively simple and become increasingly complex, and soon you'll find yourself (or your kids) building unique creations and programming them from the ground up. It's an excellent tech toy for adults and a fantastic science and learning toy for children. —WG

EDITORS' CHOICE



\$349.99



3DS/VITA GAME FIRE EMBLEM: AWAKENING

Awakening, like other Fire Emblem games before it, focuses on tactics more than the grind-heavy gameplay of Final Fantasy Tactics and Disgaea series. Combat units have their own unique classes, and almost every fighter in your squad has a name, unique art style, personality, and story. A big part of the Fire Emblem experience is perma-death; when your units die, they die for good, so don't get too attached to any one character. —JLW



EDITORS' CHOICE



\$39.99

GAMES & TOYS

IPAD GAME

XCOM: ENEMY UNKNOWN

XCOM: Enemy Unknown, the hit console game about a paramilitary organization tasked with defending Earth from an alien invasion, made its mobile debut this year, and it's as good as its bigger brother (minus the detailed graphics, of course). You recruit new troops, discover new high-tech weaponry for vanquishing the enemy, and battle it out in randomly generated levels. A recent update added an asynchronous multiplayer mode for mixing it up with friends on the digital battlefield. —JLW



ANDROID GAME

SPACETEAM

Originally an iPhone-only title, Spaceteam debuted this year on Android and simply blew away the competition with its sheer oddity. You play over Wi-Fi or Bluetooth with people in the same room, and the game centers around shouting things—"Jiggle emergency whittler!", "Set Shiftsanitizer to one!"—aloud to your teammates. It's a very silly game, and the lively nature of it makes it a joy to play. Bust it out any time you're around others with cell phones (which is all the time).

—MAX EDDY



EDITORS' CHOICE

● ● ● ● ●
\$3.99



IPHONE/IPOD TOUCH GAME

YEAR WALK

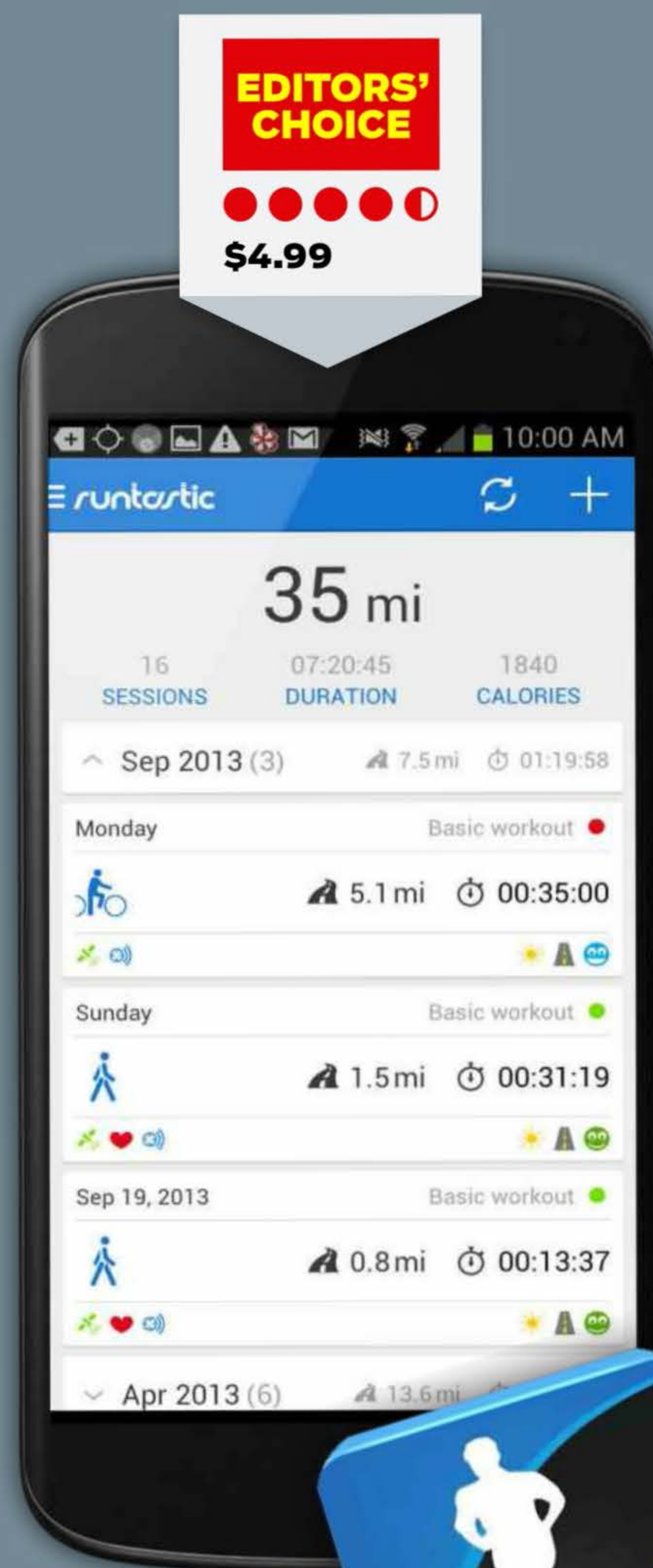
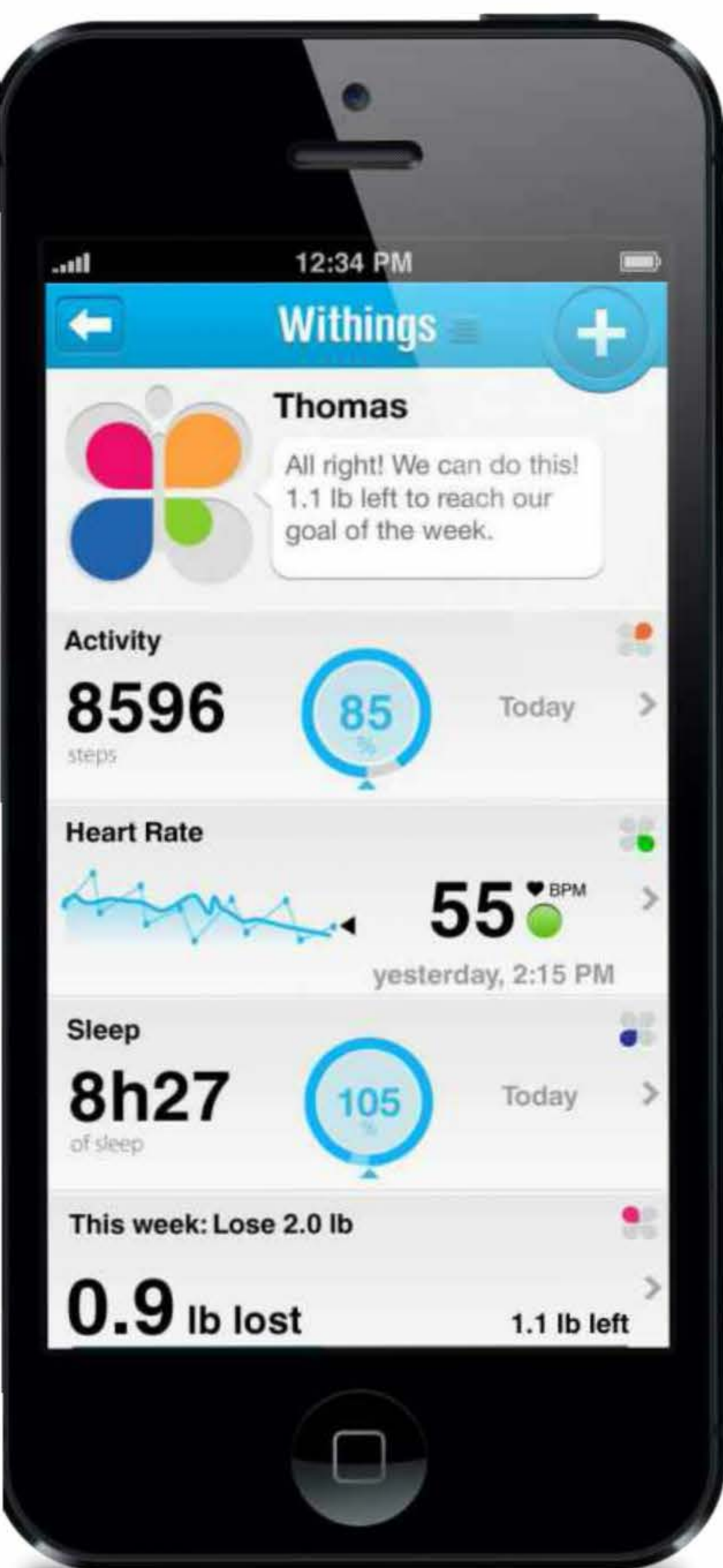
Year Walk is not like most other mobile games. Instead of brief, almost disposable interactions, this Swedish horror game pulls you in and challenges you with devilish puzzles that require you to use your phone in unusual ways. With starkly beautiful cut-out graphics, the game does a great job establishing a moody atmosphere. It has a few cheap (though effective!) scares, but they feel like a self-conscious effort to make the game scarier. —ME

HEALTH & FITNESS

HEALTH GADGET WITHINGS PULSE

The Withings Pulse takes everything you love about existing top-notch activity trackers and adds a nifty built-in heart rate sensor, giving you a more comprehensive picture of your overall health. Its elegant design, informative display, and wealth of features (including sleep tracking and displaying a full two weeks of history) make it our new favorite activity tracker.

— EUGENE KIM



HEALTH APP RUNTASTIC PRO (ANDROID)

The Runtastic PRO app tracks running, cycling, hiking, and walking, but does even more. It also spits out incredible maps and graphs about your activities and routes, accurately and consistently. The PRO version ensures you get auto-pause, extra modes, and the ability to search out new routes uploaded by other users. —JILL DUFFY



**GET
ORGANIZED**

Download and
Organize Your
Facebook Photos

SHOPPING

The Best Websites for
Buying Gadget Gifts

GAMING

A Very Gotham
Christmas

APPSCOUT

Our Favorite Apps
for December

Digital
Life

Download and Organize Your Facebook Photos

If you're like most people, many of the pictures you snap live only on Facebook—maybe even most of them. Here's how to get them to your computer and get them under control. BY JILL DUFFY



Are your photos scattered across a few laptops, your smartphone, and maybe even the Internet? Are there some on Facebook and Flickr that you'd really like to consolidate to one location?

Cleaning up all your photos is a crazy-huge project, and you should take it one step at a time. One of the biggest steps on most people's lists is downloading Facebook photos. Facebook is, after all, one of the biggest repositories of photos on the Web. If that's the stage you're at, here's how to do it.



HOW TO DOWNLOAD FACEBOOK PHOTOS

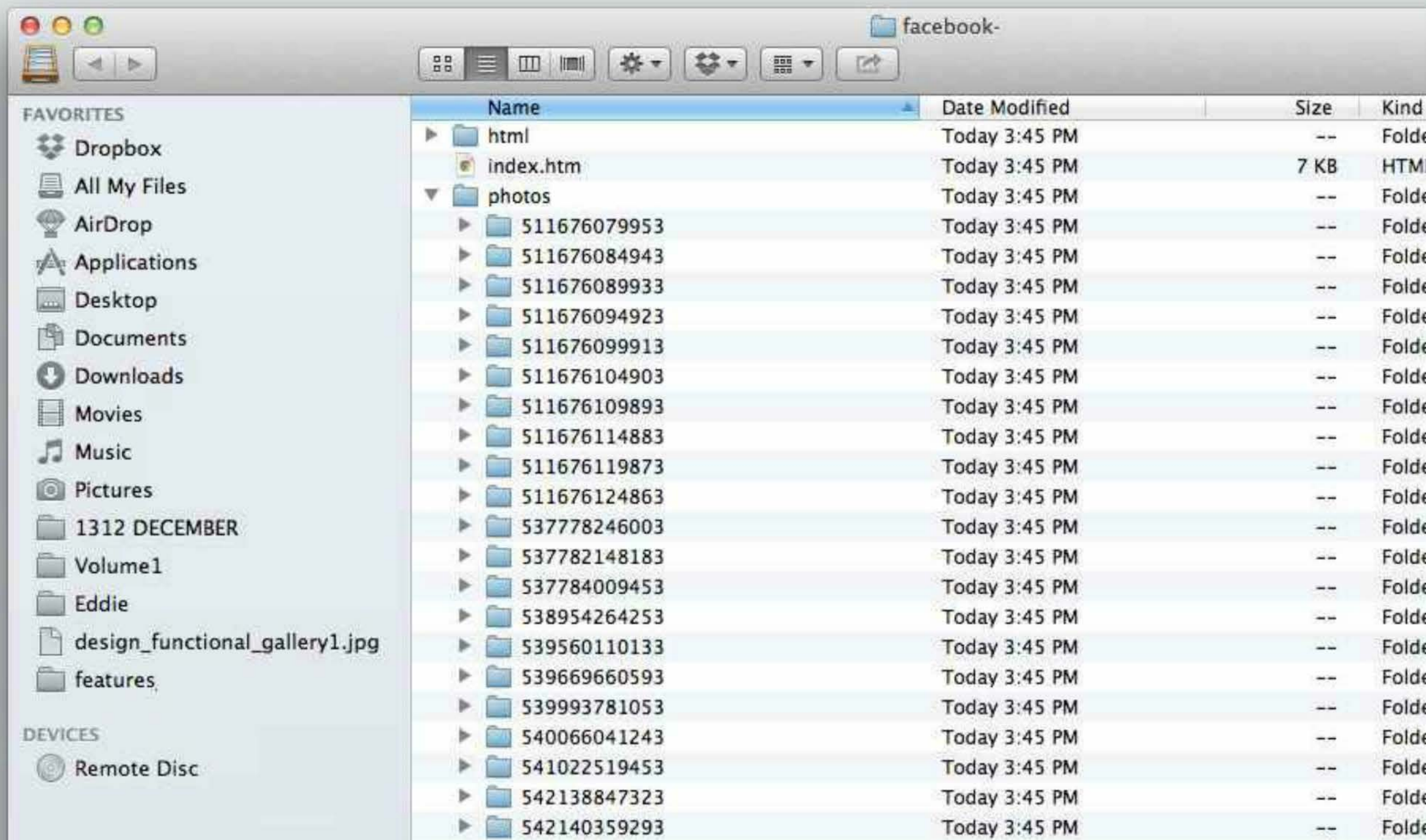
Before you start, know that downloading all your photos from Facebook takes a little longer than you might expect, although the time is mostly spent waiting.

I include that warning because if you have a project in mind for which you want to use the photos, this lag could set back your entire progress. Be sure to initiate a download of your Facebook photos at least one day before you actually need to work with the images.

1. Go to your Account Settings in Facebook (click the gear icon on the top right).
2. On the left panel, select General. You'll see a list of choices, and below them, in a totally different font, you'll see a link reading "Download a copy of your Facebook data." Click it.
3. The next few prompts ask you to verify your email address and start your archive. Click through them, and Facebook will send you an email confirmation message.

4. Now, you'll likely have to wait a little while—perhaps half an hour, or as long as a day or two—until you get another email informing you that the archive has been created and is ready for you to download.





5. When you receive that email, follow the link to download the file. Inside, you'll find a folder called Photos—and a whole lot more. There's no way to download only photos and not your other data, but at least the pictures are collected into one place.

Inside the Photos folder, you'll find more subfolders, all poorly named with gibberish. But if you look back at your Facebook account, you'll notice that each subfolder corresponds to one of your photo albums. My advice is to rename each folder to match the name of the album it came from, or a new name if you have a better idea now. The first of your downloaded folders is likely to be your profile pictures (preview a few images to be sure). Once you know the album, you can rename this folder—and the others—accordingly. (I would not bother renaming all the individual image files.)

From there, you can integrate these folders with your other locally stored images and continue consolidating all your other scattered images in the same way.

Not Junk

When you download the pictures you've uploaded to Facebook, they arrive on your computer in unhelpfully named folders. But you can decode the gobbledygook: Each folder corresponds to one of your Facebook photo albums, with the first in the list usually your collection of profile pictures. Renaming the folders will help you find the images you want more quickly and easily in the future.

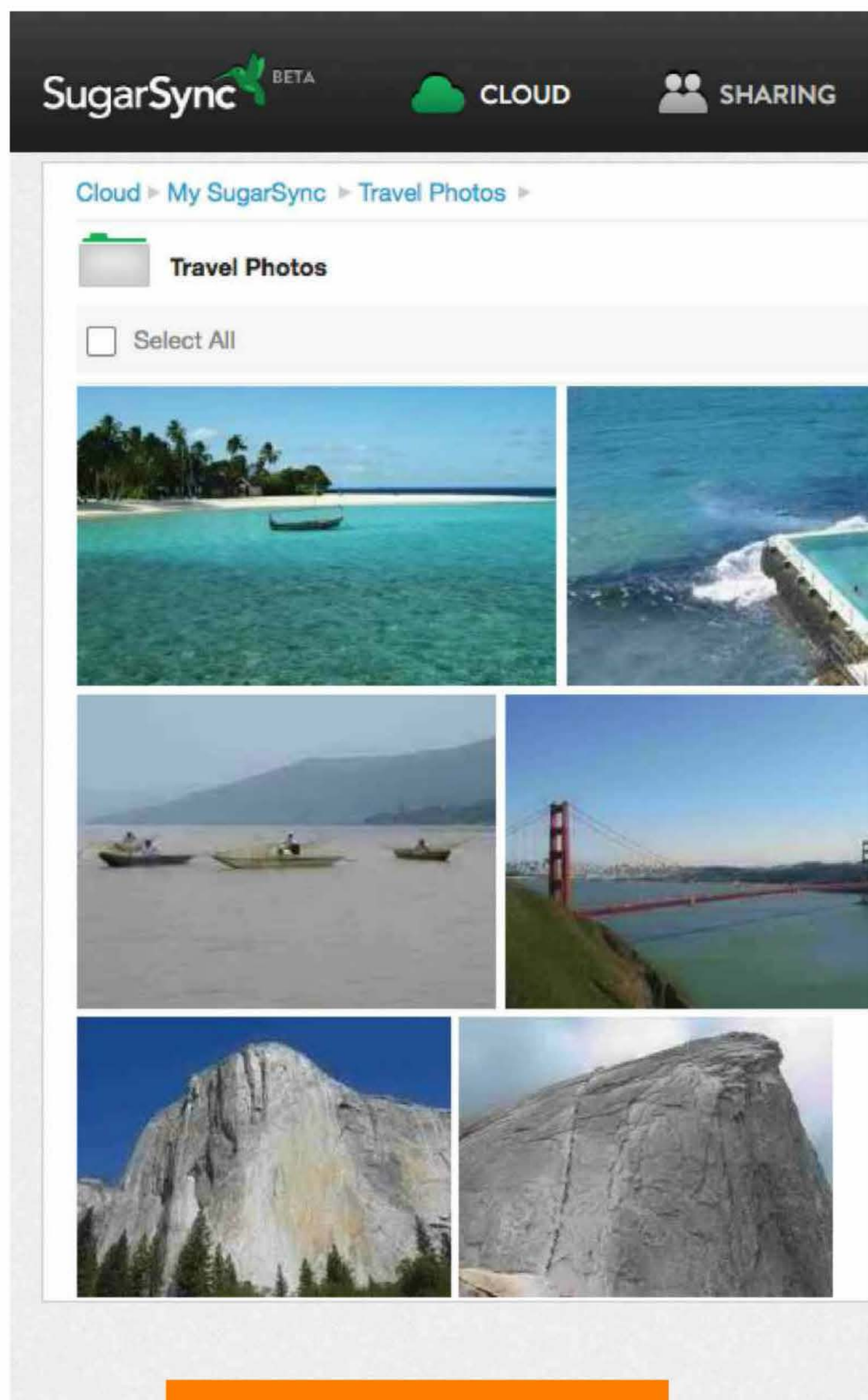
NOW WHAT? ORGANIZATION AND STORAGE

I recommend moving your Facebook photos (and all your other photos, really) to one location that's regularly backed up. If you don't already have a location in mind, I'd suggest using a file-syncing account, such as Dropbox, SugarSync, Box, Bitcasa, or Google Drive—there are dozens of excellent cloud storage solutions.

Some file-syncing and storage solutions come with a pre-made “Photos” folder, which you can use as a dumping ground for your Facebook pictures and more, or you can create your own folder.

If you use a file-syncing program to centralize your photos, definitely look into the affiliated mobile app. Several file-syncing providers, including SugarSync, Dropbox, and Bitcasa, have an “instant upload” feature that automatically sends all the photos you take on a mobile device to your account. This same feature works for all photos you take going forward as well as all the existing photos on your phone. It's supremely convenient.

If you think you'll remember your photos best by whether you posted them on Facebook, then I would recommend keeping all the Facebook pictures grouped together, or at the very least use the word “Facebook” in the subfolder names.



KITSCH AND SYNC?

Once you've taken control of your photos, saving them to a location that's regularly backed up with an automated service such as SugarSync will help you protect your images for years to come.

The Best Websites for Buying Gadget Gifts

With new shopping sites crafted especially for unusual gifts and gadgets, now you can give a present as tech savvy as you are. **BY KARA KAMENEC**



It's an age-old problem: You want to buy a cool gadget as a holiday gift but have no idea where to start your search. Luckily, the Internet is making this easier than ever. You can easily create your entire shopping list and send gifts with the click of a button, buy products from anywhere in the world and find smaller retailers you may have missed otherwise, and even access marketplaces featuring new crowdfunded products from Kickstarter, Indiegogo, and RocketHub. Here are our favorite sites for helping you find exactly what you want, even when you don't *know* what you want.

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CURIOUSITY BUILDS
MYSTERY BOX
WONDER - AWAITS

1. Firebox

Firebox is an online electronics retailer selling tech toys and gadgets. The site inventory fits the site's slogan: "We don't stop playing because we get old; we get old because we stop playing." The homepage has a familiar Pinterest-style layout with product boxes containing the product name and price, and for newer products a label signifying when it was added. Product boxes are also marked "New" or with a number indicating its popularity. The "#1" marker indicates the most popular products ranked using an algorithm of sales data, social feedback, and user votes. Organize the "pins" or boxes you see using the site categories of Homepage, New Stuff, Top 50, Gift Finder, Live Feed or by product. In addition to Home & Lifestyle, Food & Drink, and Gifts, product categories can also be more offbeat: Gadgets, Toys & Games, Personalized, WTF?, Last Chance, and Random. In the Gift Finder section you can sort products by price (ranging from \$0 to \$2 million) or personality type, including Animal Lover, Bookworm, Dirtbag, Enjoys A Brew, and Pop-Culture Junkie.



Give the Gift of Time, Power & Money

SHOP THE COLLECTION



Give The Gift Of Time, Power & Money



FOR KIDS

SHOP THE COLLECTION

2. Quirky

To find something no one else has, check out crowdfunding aftermarket Quirky. Founded in 2009, Quirky is a community site focused on invention with a connected online store. Members navigate between three main areas: Invent, Influence, and Shop. In the Invent section, you vote on submitted ideas at various stages of development. Every Thursday, the New York City–based company hosts a live broadcast where experts, friends, and community members drink beer and debate the best ideas submitted; at the end of each broadcast, a winning idea is selected to be created and sold in the Shop section. Royalties are allotted to influencers of any suggested ideas as they are developed. Each product page resembles a Kickstarter project, complete with investor and invention stats, as well as an added Buy button. You can view detailed product development and the funding history of any item in the store, plus videos.



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\$189.99

Star Trek TNG Pajama Set


Death Star Ice SPHERE Mold


Doctor Who Figural Holiday Ornaments


3. ThinkGeek

ThinkGeek, the online retailer loaded with “stuff for smart masses,” sells cyberculture toys and gadgets. The site has gamified shopping with a rewards program to earn Geek Points, and organizes products by highly specific interests such as *Star Wars*, Office & Dorm Pranks, and Zombies & Bacon. With an account you can also create your own product wish list or search lists of friends and family using their email addresses. To find gadget gifts you can shop the Gadgets or the Gifts & Interest sections, with have subcategories organized by price, brand (such as Lego or World of Warcraft), interest (such as Gamer or Coder Goodies), or audience (such as Gifts for Students). ThinkGeek features a unique gift discovery aid called Timmy’s Tactical Gift Finder. Simply answer three questions about gift type, price range, and interests and it generates a custom selection of gift suggestions.



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Hot Collections



✉ Join our Weekly Newsletter

Join our weekly newsletter and never miss our gadgets again. We'll email you the coolest gadgets 4 times per month along with exclusive deals and promos.



4. The Gadget Flow

The Gadget Flow is a curated one-stop shop for gadgets featuring products from a variety of sites, including those mentioned above. Users submit gadgets and feature products with listings ranging in price from \$50 for a 24-hour on-site product post to \$1,299 for a blog post or email blast. The site is organized by Staff Picks, Gift Ideas, Hot Collections (such as For Pet Lovers and For Photographers), and Categories (such as Fancy and Useful). Gadget product pages display picture, price, description, the option to save the product to your Gadget Flow wish list, and a “Buy Now” option that directs you to a third-party site.

GIFT GUIDES

Recipient

Gifts for Men

Gifts for Women

Gifts for Geeks

Gifts for Dad

Gifts for Mom

Gifts for Toddlers

Gifts for Kids

Gifts for Girlfriends

Gifts for Teens

Gifts for Athletes

Gifts for the Pet Lover

Gifts for the Musician

Occasion

Gifts for Christmas

Gifts for Halloween

House Warming Gifts

Gifts for Valentine's Day

Novelty Gifts

Gifts for a Party

Location

Gifts for the Office

Gifts for the Kitchen

Gifts for the Runway

GIFTS FOR GEEKS

Welcome to the all-inclusive cornucopia of gifts for the special geek in your life. Be it a husband, a buddy, a brother, or the Screech on a bike who's just a *Star Wars* trinket or two away from keeping his mouth shut about that parked car you side swiped, our vast collection of geeky swag promises to reveal a gift so geektastic you'll feel justified asking its recipient to stop playing *Settlers of Catan* long enough to open it. Choose especially wisely for your geek, and he may even shed a tear of gratitude in his Fanta.

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iPlunge Phone Stand
Price: \$3.70



The Oklahoman - Tornado
Relief Aid Condom
Price: \$3.95



Venus Flytrap Potted Plant
Price: \$3.99



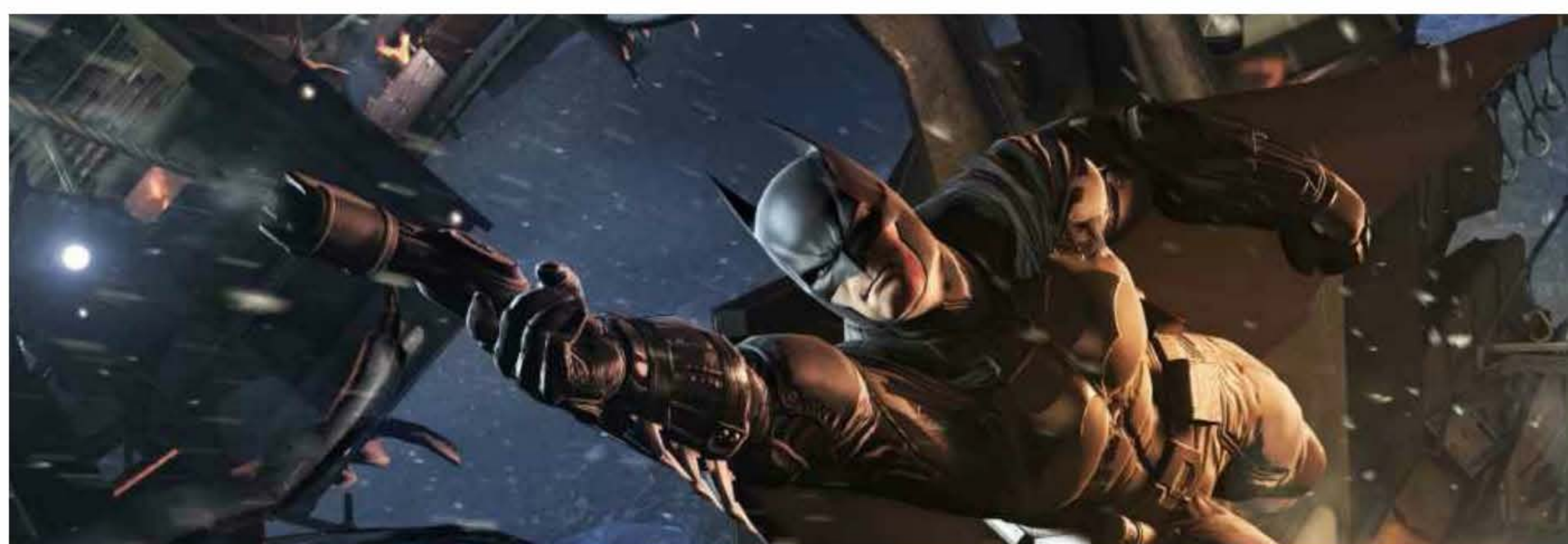
5. DudelWantThat

Don't let the indiscreet name fool you: This site has one-of-a-kind products. Unlike most shopping sites nowadays, DudelWantThat has individually curated products hand-picked by actual people. The company posts three new products every day from various gadget sites across the Web and strives to be "a geek's gift guide of gadgets, gear, novelties and zombies." Site categories include Home, Gear, Style, Autos, Entertainment, Food, Fitness, Household, Outdoors, and OMG!!! The homepage promotes the latest products in a Pinterest-style layout and each box is labeled with subcategories such as Weapons or Gadgets. The easiest way to find all gadgets on the site is to click on one of the red gadget labels in a product box, which produces a custom result of all gadget-labeled products. The gift guide has a search engine-like option for finding the perfect gift. You can click on product categories organized by recipient, occasion, location, or popular tags, or you can search the gift guide section with any keyword related to the gift, person, or occasion.

A Very Gotham Christmas

Seven cool things to see and do in the new
Batman: Arkham Origins. BY MATTHEW MURRAY

Oh the weather outside may be frightful, but if you're the Dark Knight you can take it. In **Batman: Arkham Origins**, the third game in Warner Bros. Interactive Entertainment's popular series, you wing back in time to five years before the first chapter (**Arkham Asylum**) to spend Christmas Eve battling crime as Batman. From the initial Blackgate prison break that sets the story in motion to the pack of assassins trying to earn the \$50 million bounty on Batman's head to the discovery of the cackling, made-up madman pulling the strings, you're not in for a silent night. Here are some fun ways to spend your holiday in Gotham.



A Very Gotham Christmas

Seven cool things to see and do in the new **Batman: Arkham Origins**. BY MATTHEW MURRAY

1

All I Want for Christmas Is You

The main plot of *Arkham Origins* puts you in the path of plenty of dangerous enemies, including crime boss Black Mask, Deathstroke, Shiva, Copperhead, Penguin, Bane, and of course The Joker. But step off the well-trod path once in a while to track down other leads if you want to encounter the full range of Gotham baddies. For example, once Mad Hatter makes his presence known you can safely ignore him—but if you do, you'll miss out on an exciting side quest and numerous opportunities to hone your skills. The game is much more satisfying if you don't limit yourself to the primary story's linear progression of foes.



A Very Gotham Christmas

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2

Deck the Halls

No, Batman still doesn't do the whole killing thing, but he's willing to get his hands dirty when necessary—and when exploring the mean alleys and roofs of Gotham, it's necessary a lot. As with the previous two games, *Arkham Origins* encourages you to perfect your moves: The better you are at throwing punches, countering incoming strikes, and using your arsenal of utility-belt devices, the more experience you earn and the more enjoyable the game becomes. It takes a lot of practice to pull off long, tricky combos, but you'll love how you feel when you've mastered the art—and doing so is the only way to earn the coveted Free Flow Fifty achievement (for delivering 50 uninterrupted actions in a single fight).



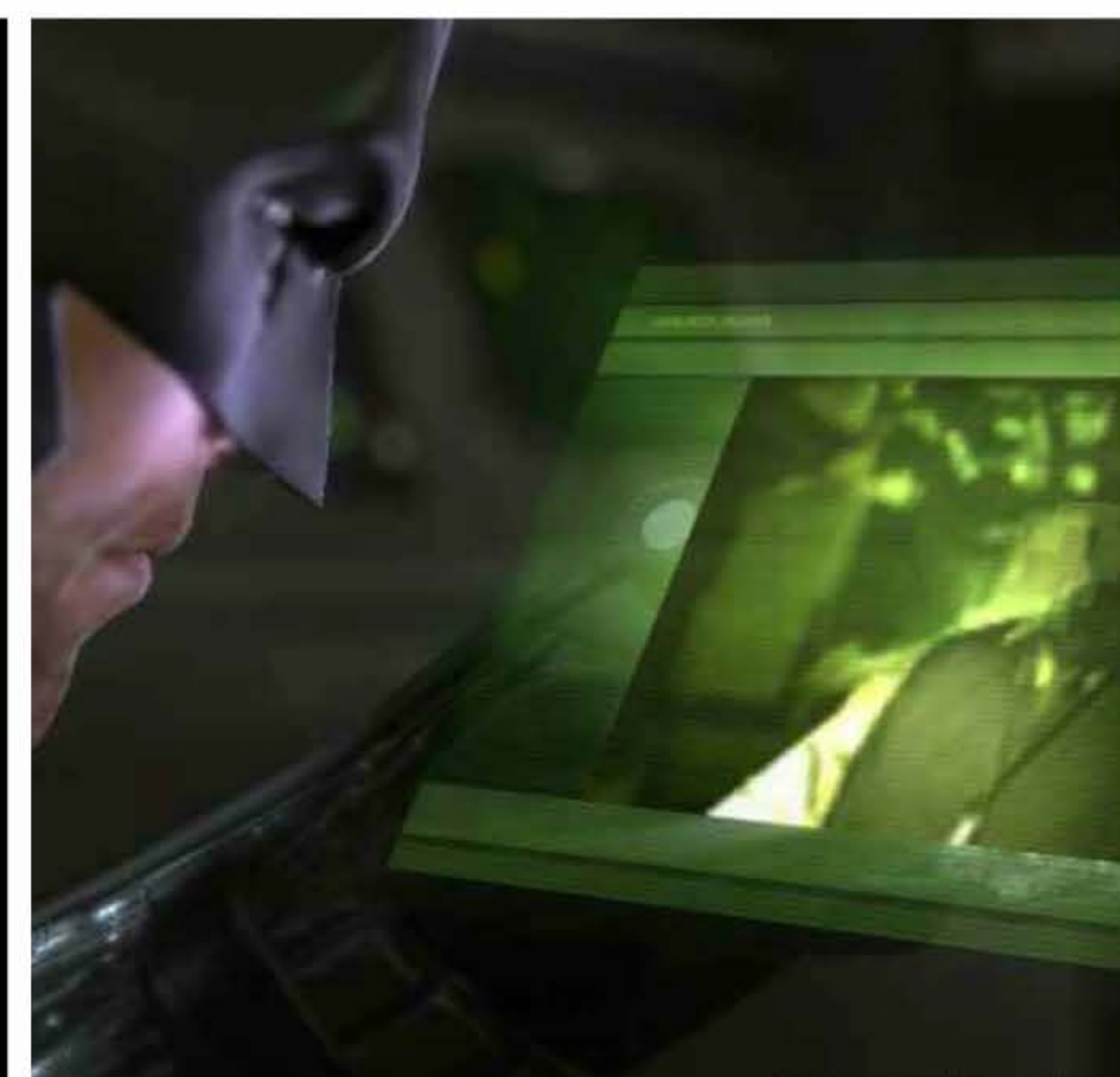
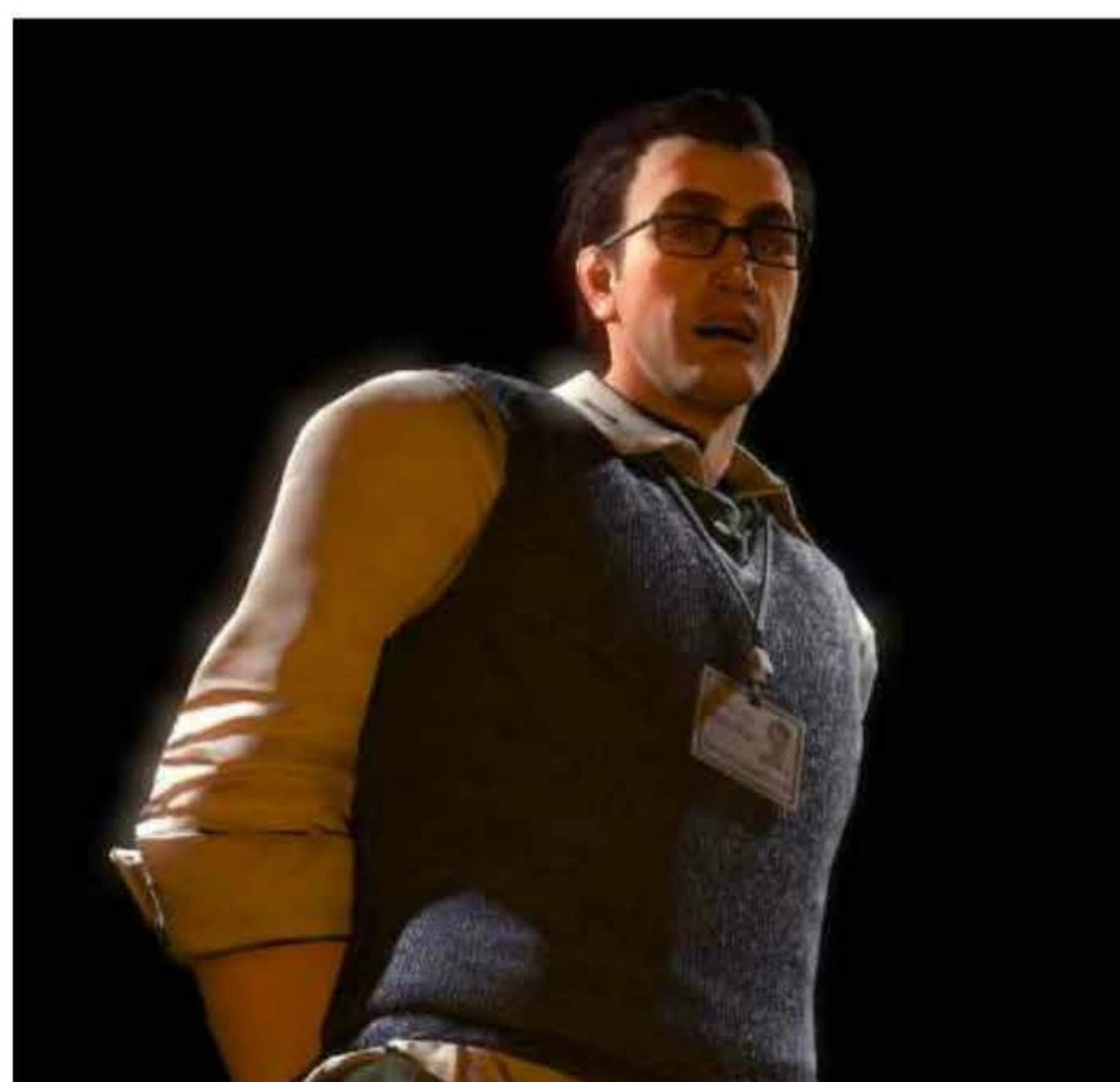
A Very Gotham Christmas

Seven cool things to see and do in the new
Batman: Arkham Origins. BY MATTHEW MURRAY

3

Presents for Christmas

One of your longest-running quests, should you choose to accept it, will be chasing down the mysterious malefactor known only as Enigma. He's hacked into and taken over Gotham's communications network, so to find him you'll need to destroy the relay nodes he's set up all over town. That's easy enough, but if you want to discover everything Enigma's been up to you'll also have to collect his numerous hidden datapacks, which means using all your intuition to solve the fiendish puzzles he's left behind—and once you have, you'll need to unravel still more to figure out everything. Most of these tasks aren't too tough, and they're a nice, cerebral change of pace from the head-smashing that consumes most of your time.



A Very Gotham Christmas

Seven cool things to see and do in the new **Batman: Arkham Origins**. BY MATTHEW MURRAY

4

Cool Yule

Unlike most action games, *Batman: Arkham Origins* doesn't reward just raw, wanton violence—the quieter and subtler you are, and the more techniques you use, the more likely you are to unlock all the game's achievements (and have the best time doing so). To that end, the new integrated Dark Knight System adds four “tracks” to ensure you see as much of the game as possible, in the creative manner the developers intended. Complete “World's Greatest Detective,” for example, by tracking down most of the game's (and Enigma's) hidden secrets, or “Gotham Protector” by doing the down-and-dirty work the corrupt GCPD can't.



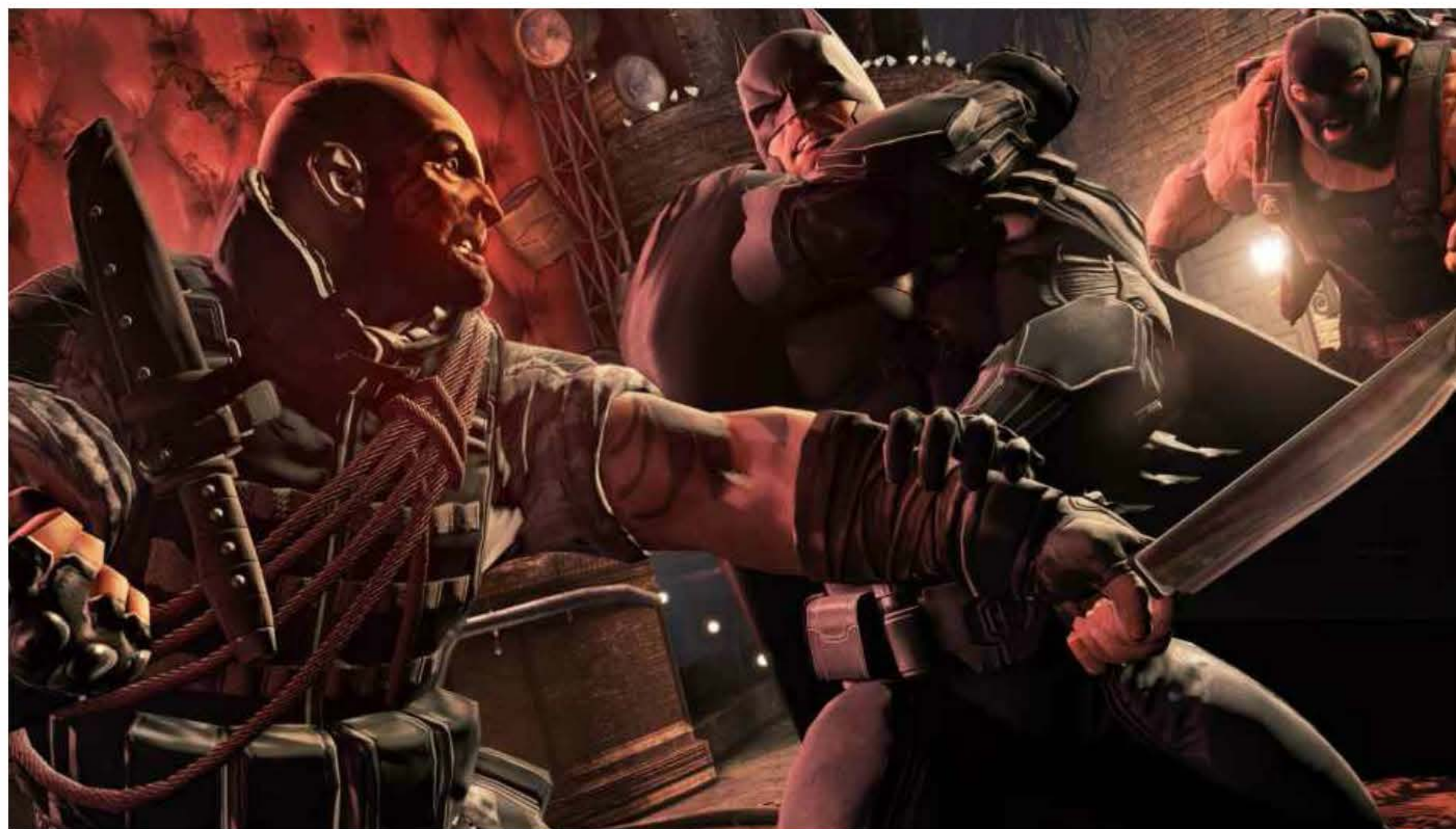
A Very Gotham Christmas

Seven cool things to see and do in the new **Batman: Arkham Origins**. BY MATTHEW MURRAY

5

Hard Candy Christmas

Completing story mode will take you about ten hours (maybe less if you're a Batman veteran), but finishing it can be just the start of your fun. After you've made your way through the single-player scenario once, you have two good reasons to fire it up again. The first is New Game Plus, which starts you from scratch facing more difficult enemies—but gives you access to all the abilities and weapons you've already acquired. Blow through that retelling to unlock the ultimate challenge: I Am the Night mode, in which the game ends if Batman dies.



A Very Gotham Christmas

Seven cool things to see and do in the new
Batman: Arkham Origins. BY MATTHEW MURRAY

6

Do You Hear What I Hear?

Though you'll spend most of your adventure in Arkham Origins alone, you can engage with others if you want to. Fire up multiplayer mode and join up with Robin against the Joker and Bane gangs in Blackgate and do your Dynamic Duo best to stop the worst of Gotham's problems before they start. Not in the mood to face off against others in real time? In Challenge mode, you can play on a series of boards based on locales in the game (more unlock as you advance through the story) and compare your abilities and results with those of other players who've tackled the same matches.



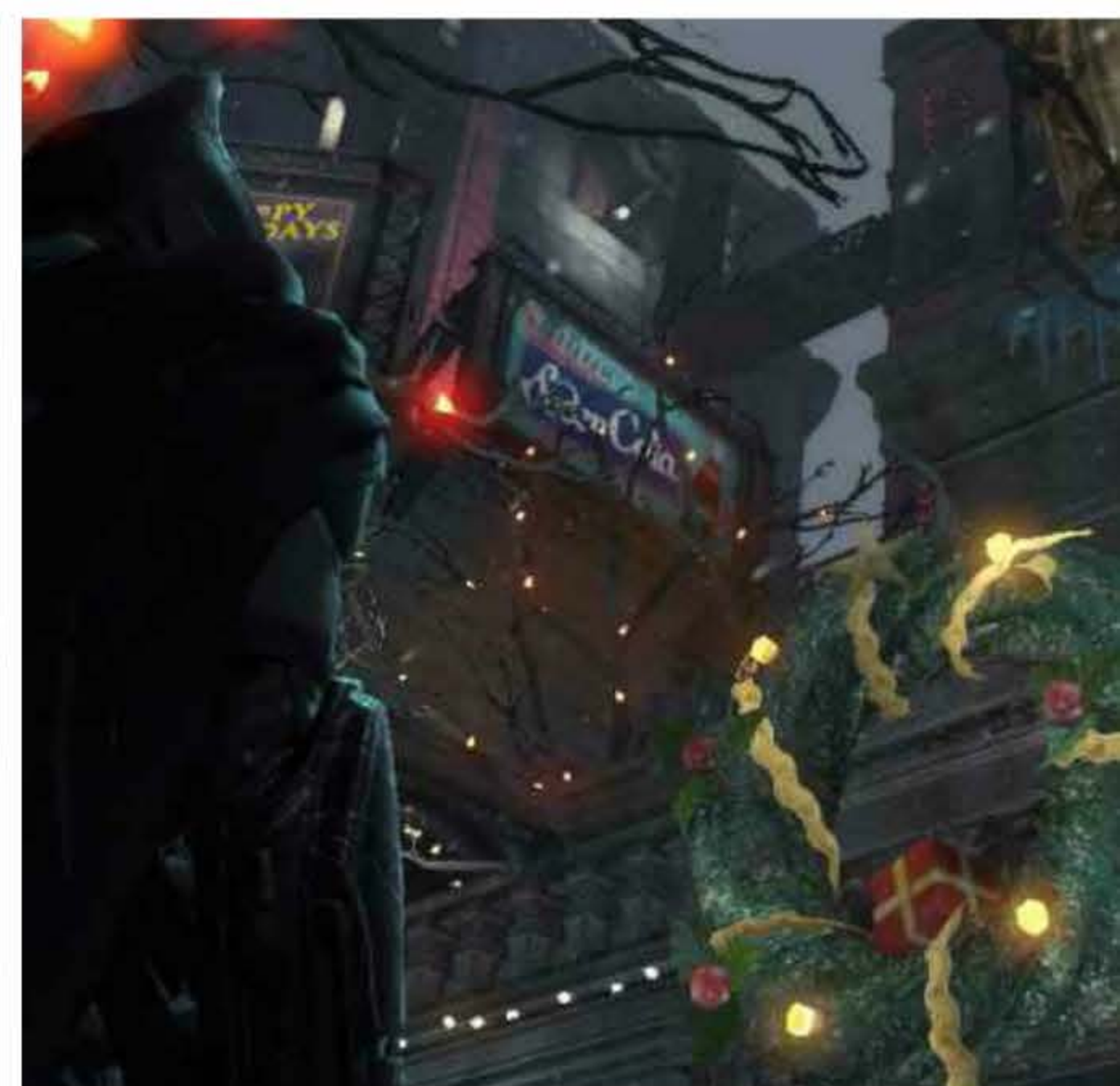
A Very Gotham Christmas

Seven cool things to see and do in the new
Batman: Arkham Origins. BY MATTHEW MURRAY

7

Winter Wonderland

There's one more, especially easy option for enjoying Arkham Origins: Just go exploring! In addition to the ever-present snow flurries, Gotham is outfitted for Christmas from north to south, with glittering trees, wreaths, festive lights, and plenty more on display. Dash through the decorated streets, swing between the serene rooftops, or glide high above it all with the help of your cape for a view of the holidays that only the Caped Crusader can give you.



Our Favorite Apps



Android



Android



Android, iOS



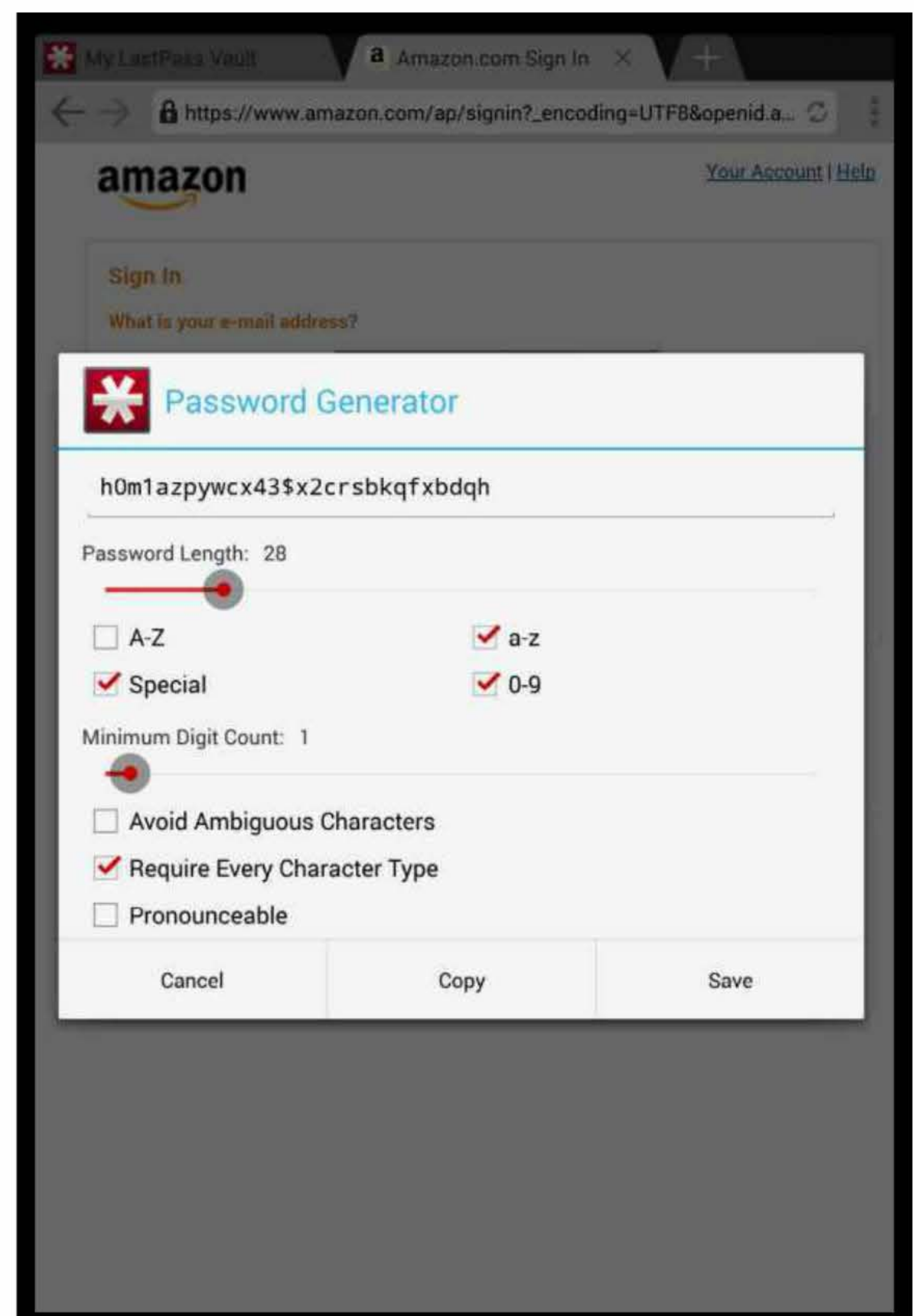
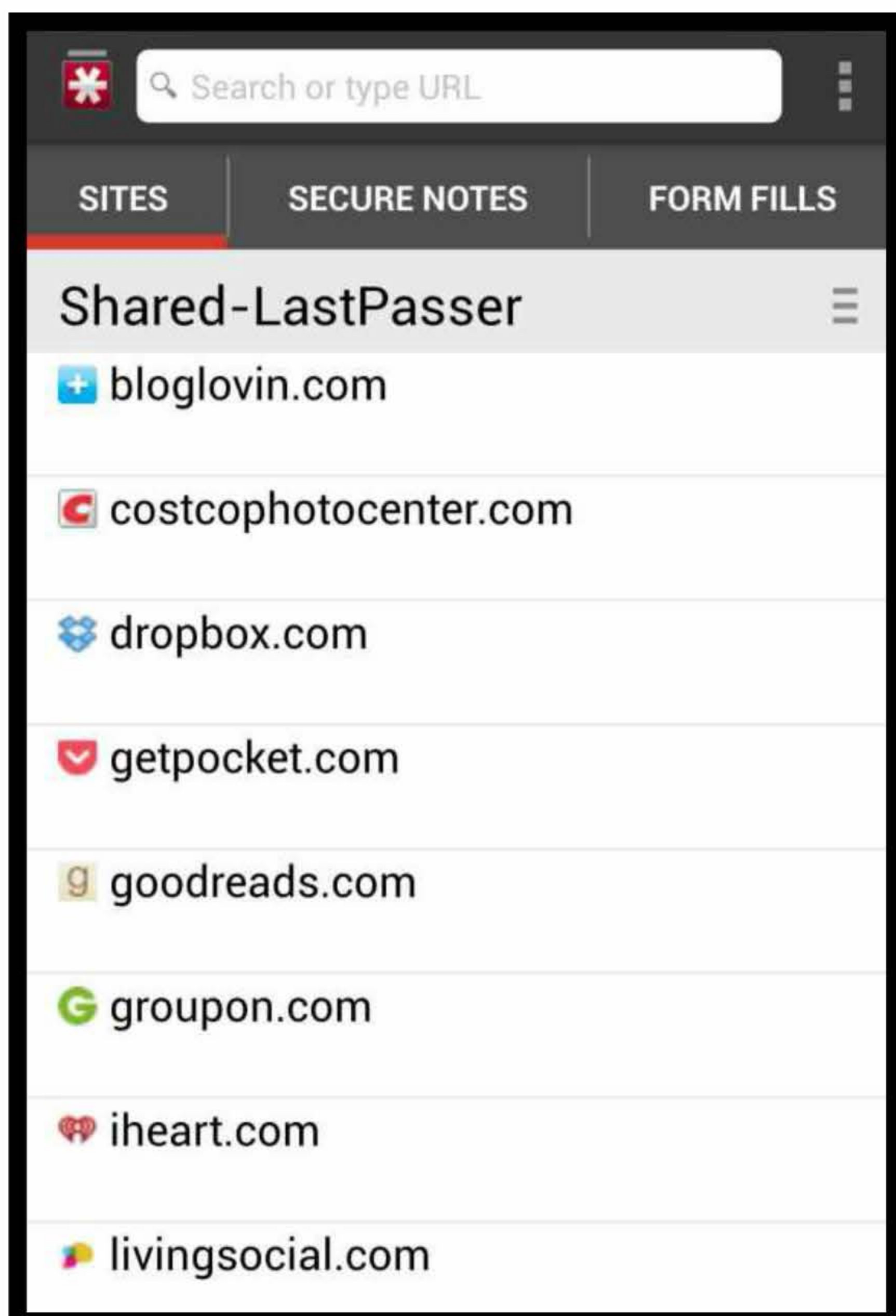
iPad

LastPass Password Mgr Premium

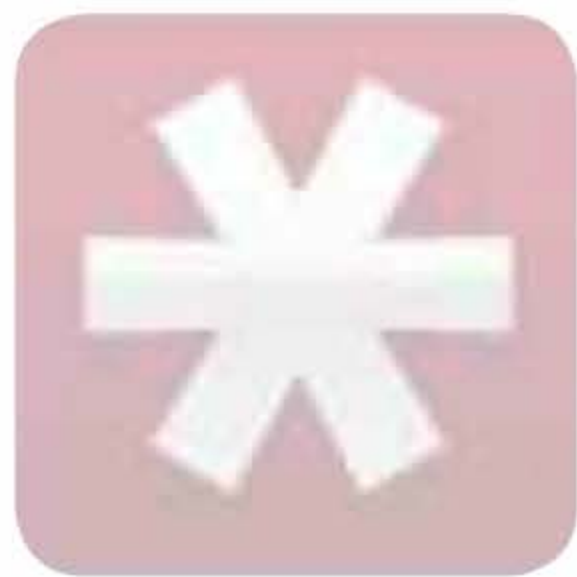
\$1/Mo



With its third version on Android, LastPass introduces a powerful new design that finally matches the capability of this password manager. With a Chrome-esque interface and emphasis on search, the app gives you fast access to all the entries in your Vault. The app's browser is at the forefront and quickly logs you into websites. One of our favorite new features is the improved flow for saving generated passwords, which is far more flexible than before.



Our Favorite Apps



Android



Android



Android, iOS



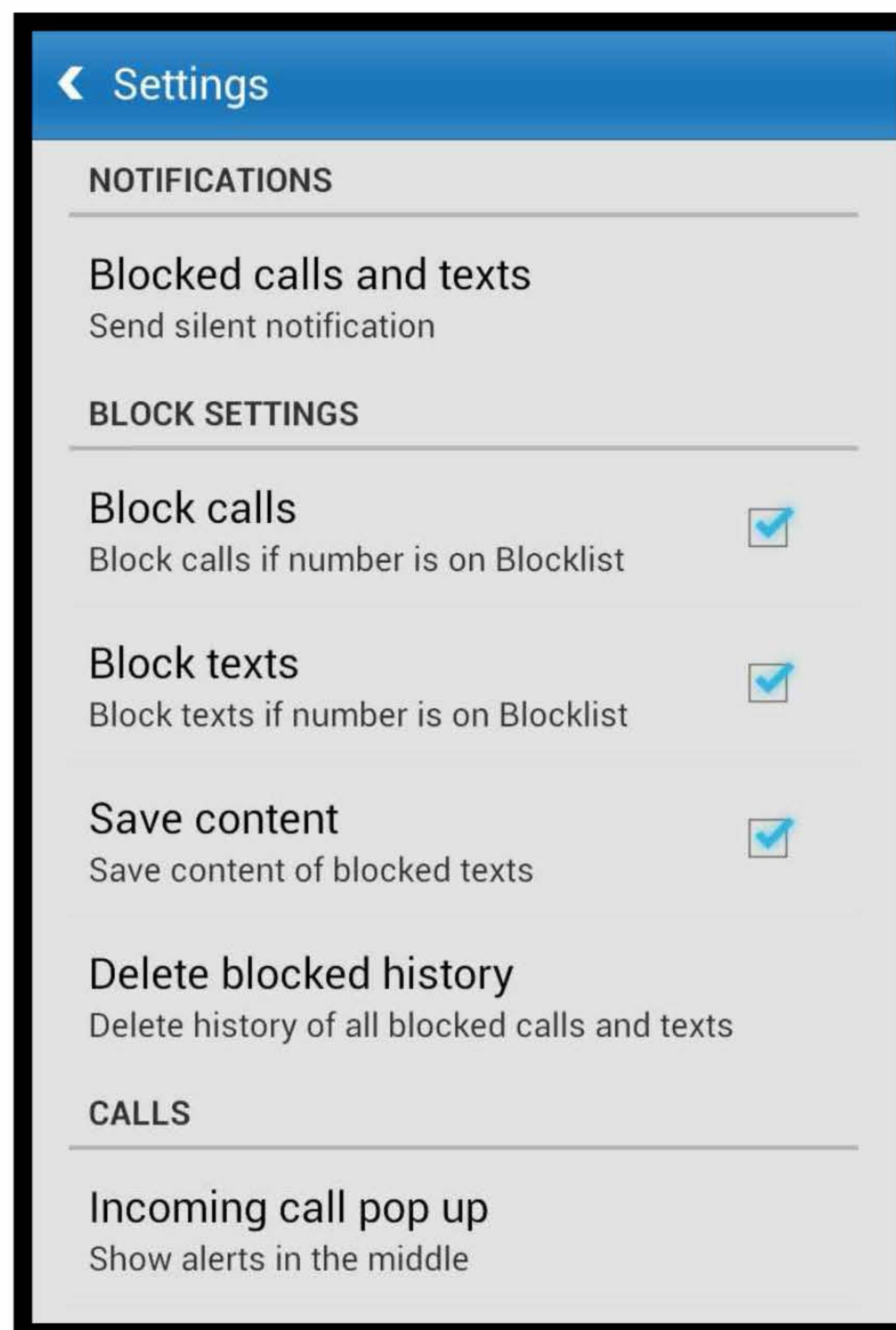
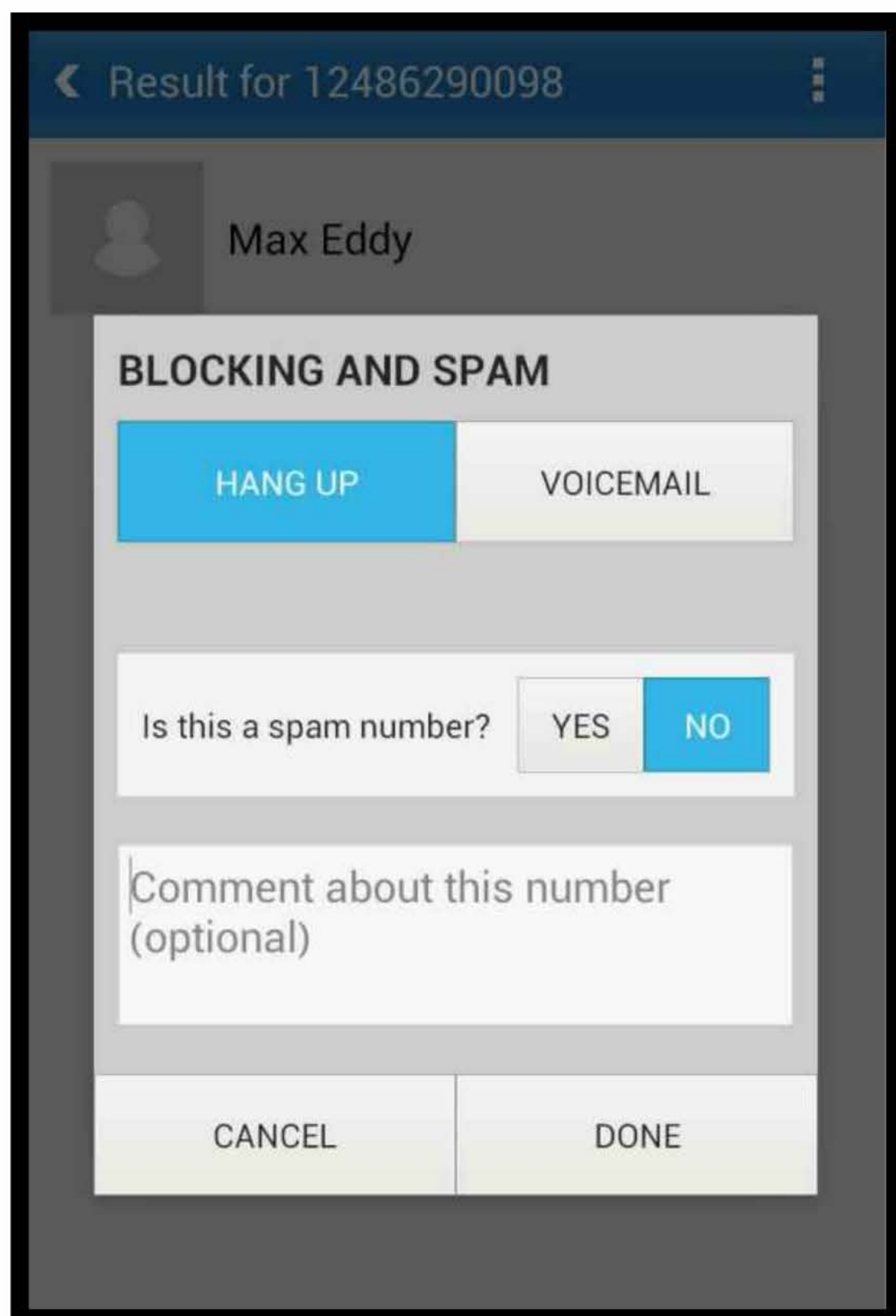
iPad

Mr. Number

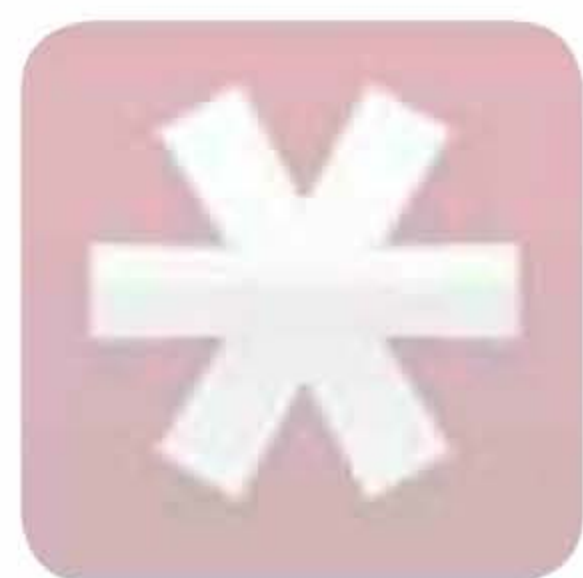
Free



Just because you have a smartphone doesn't mean you want people calling you all the time. Mr. Number makes it easy to block calls and text messages from specific numbers, area codes, code prefixes, or just everyone. It's dead simple, but with reverse number look-up, enhanced caller ID information, and lots more, it's incredibly powerful. Even if you're not famous enough to need extensive call blocking, it's terrific for avoiding the world (or only an area code) now and then.



Our Favorite Apps



Android



Android



Android, iOS



iPad

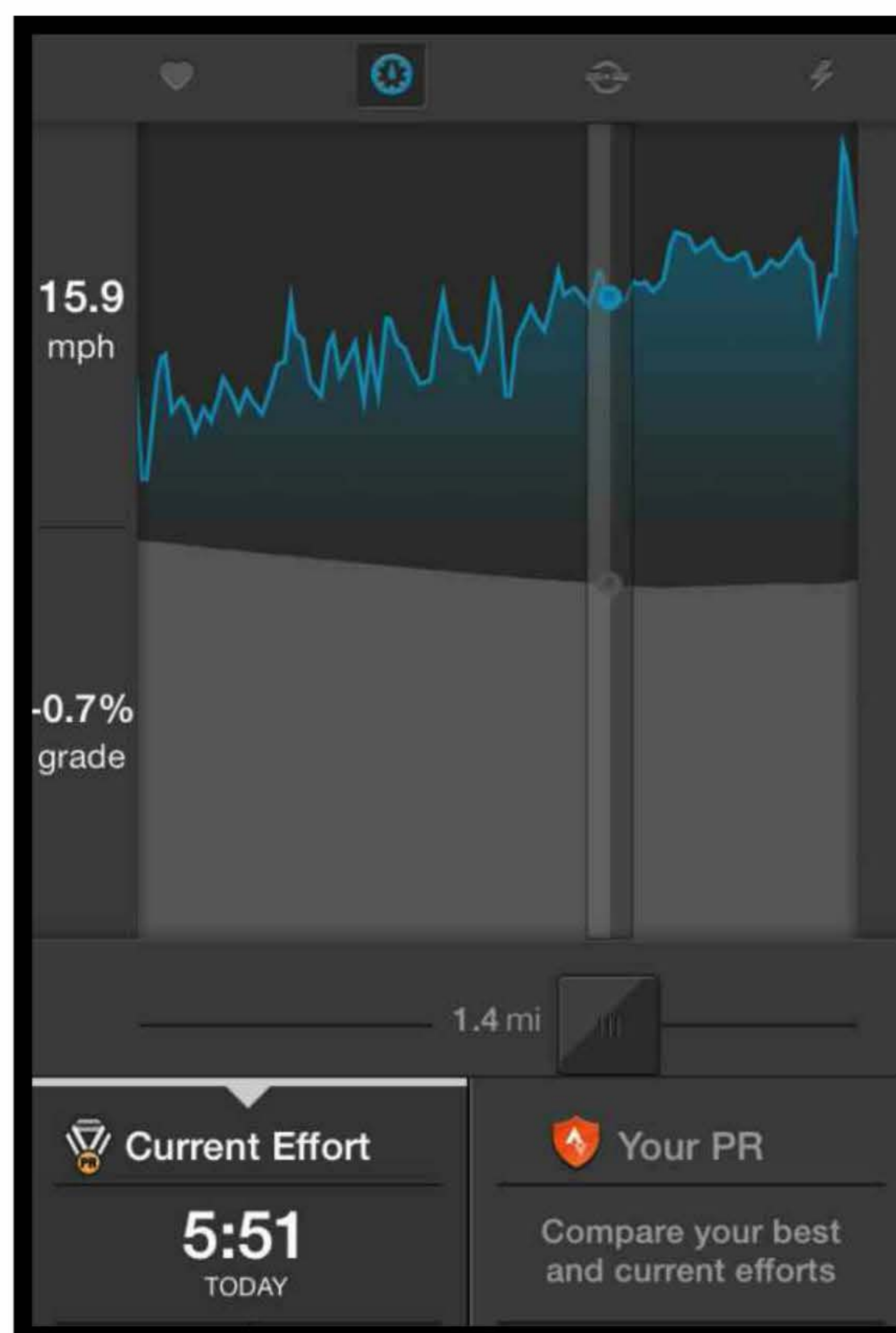
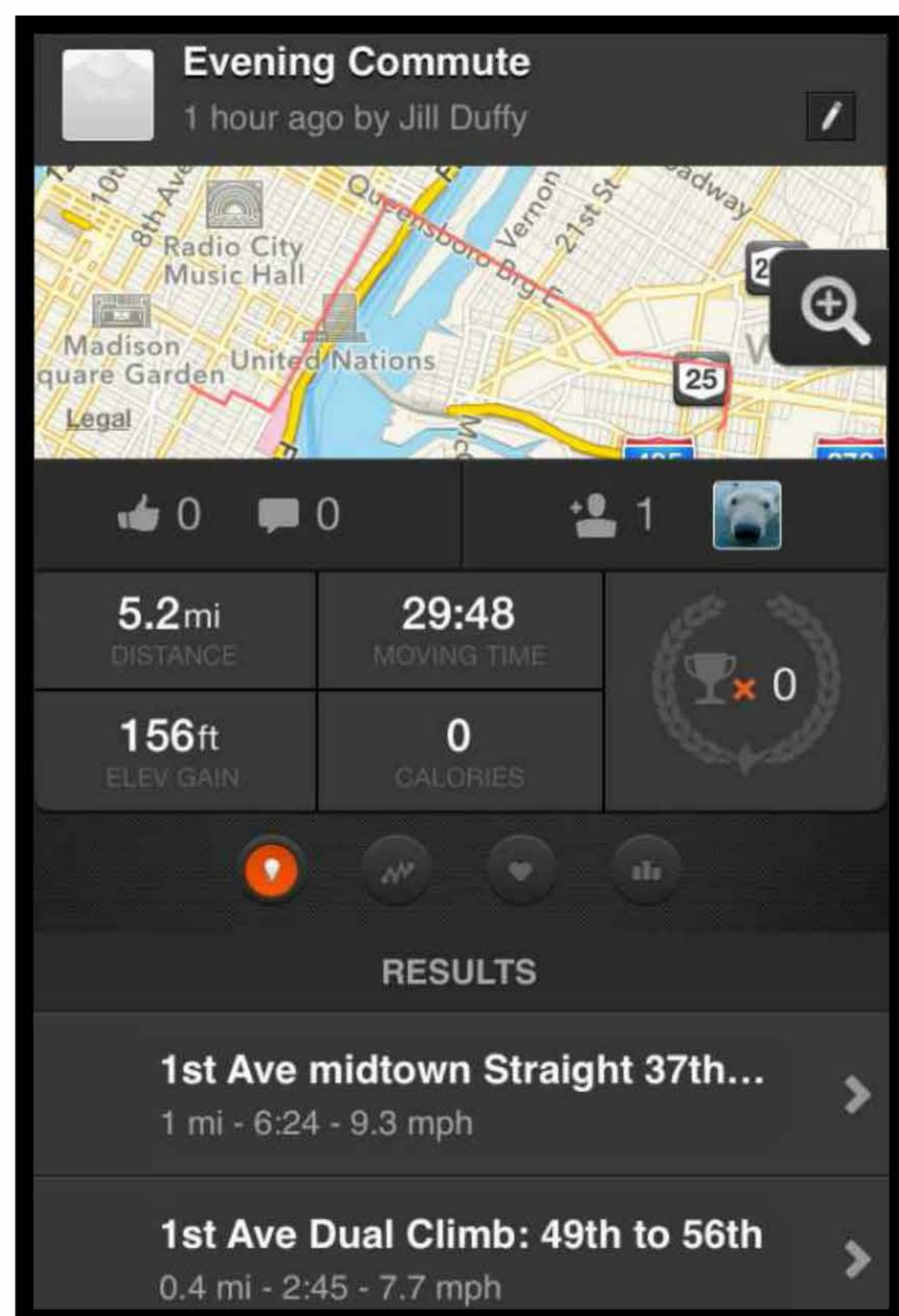
Strava Cycling

Free

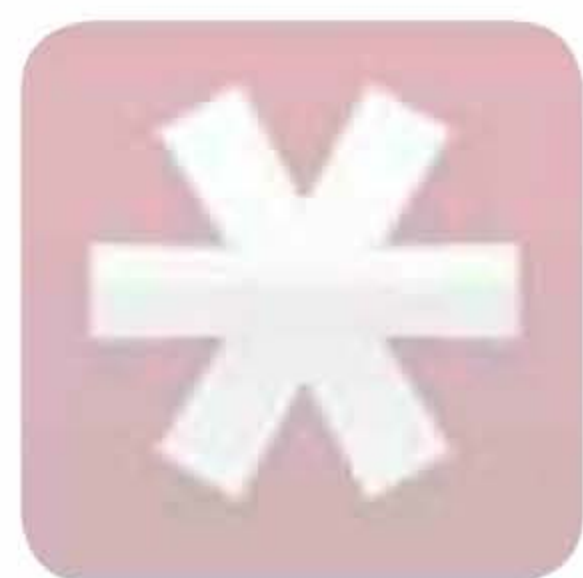
Free



Strava Cycling puts a new spin on bicycling tracking apps. Flick it on, hop on your bike, and Strava will record where you go, how fast you travel, your change in elevation, and a few other metrics, and at the end of your ride it will compare your performance on certain segments against that of other Strava users who have ridden the same stretches. A lot of your information is public by default and ride tracking is limited (there's no auto-pause, for example, or a delay start countdown), but using Strava is exciting—and fiercely competitive.



Our Favorite Apps



Android



Android



Android, iOS



iPad

XCOM: Enemy Unknown

\$19.99



2K Games' hit PC and console turn-based paramilitary strategy game XCOM: Enemy Unknown has lost little in its transition to the iPad. In defending the Earth from alien threats you'll find lots of ways to engage enemy combatants and tons of options for customizing your dream squad. The story isn't particularly intriguing and the graphics aren't always of console quality, but the squad-versus-squad action is enough to keep fans forever coming back for just one more game.





Age of the Selfie

I'm not absolutely sure how this phenomenon of the "selfie"—the photo you take of yourself with a digital camera held at arm's length, or into a mirror—has eluded scrutiny. You'd think that the sociologists of the great universities would be all over this one as a phenomenon out of control. Is it a fad or a trend?

They are done by women and men, but it seems mostly by teenage girls. Some of the girls who take these pics are so adept that they can gather a crowd around them and almost make it look as if someone else was doing the shooting. Kind of.

The only things worse than selfie snapshots are the hordes of teens, again usually females, who set up a webcam and begin to "produce" commentary to post on YouTube. They are usually alone and grumbling about one thing or another in a way that's coy, cutesy, and often hipsterish.

There are a few guys, including adults, who partake in this sort of amateurish rant or review or commentary, so the phenomenon is pretty broad-based. And many of these would-be personalities develop huge followings. The other day I watched one of these teens rant about how men are sooooo dumb. The video had ten million views. Some people have even acquired sponsors or enough Google adviews to make a living out of this.

With these substantial followings all of this is further encouraged. Nobody is going to rant into the camera for long if no one else watches. What we do not fully understand is what percent of the people are actually enthused and not flabbergasted or stunned by the audacity of the performer.

“

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”

The same sort of befuddlement exists with the selfie snapshot. The girls who do these are often in various dimensions of undress. Or they are making duck lip faces as if that was attractive. If you have no idea what I am talking about then go to Google Images and search for “duck lips.” Sticking out a big tongue is also a popular pose.

These pictures are freely traded and posted mostly on Facebook as a tribute to stupidity along with pics of hammered college kids. None of this is a good idea. This selfie phenomenon is generally in the age bracket of about 13-20 with a few immature older people constantly shooting selfies. It fits in with the outrageous popularity and the show-off nature of Facebook.

It's services like these where boasting about your great life is promoted like crazy. And where you will find plenty of selfies to balance the great text with great pictures of you and your incredibly awesome friends.

Will this creepy and distressing phenomenon go on forever as a mainstay of society? I see nothing to stop it except possible tendonitis. But tendonitis on this scale is just wishful thinking.

At some point, you have to ask yourself, “Are we dealing with a generation of self-absorbed narcissists?” So far it seems the answer is yes, and unless we teach these kids differently everything—not just photos—will only get worse.



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