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MAGAZINE

CONNECTED CARS

Shift Into High Gear



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COVER STORY

**CONNECTED CARS
SHIFT INTO HIGH GEAR**

High-tech automotive features are coming to mainstream vehicles and revolutionizing how we drive. Here's what you can expect to see in 2014 and beyond.

FEATURES

**THE BEST TECH FOR
YOUR WEDDING**

Make the most important day of your life also the most stress-free with this collection of must-have apps, websites, and gadgets.

**IS THIS A SEARCH
COMPANY?**

Google is no longer just about simple Web searches. What do its innovation and ubiquity mean for the way you live?

REVIEWS

CONSUMER ELECTRONICS

Pebble Steel

LG 55EA9800

Nest Protect

Sony Cyber-shot DSC-RX10



Pebble Steel

HARDWARE

Lenovo ThinkPad X240

Origin Chronos

**Tiny Hardware
Firewall (Belisarius)**

SOFTWARE

Apple GarageBand 10

CyberLink PhotoDirector 5



Nest Protect



Apple GarageBand 10

WHAT'S NEW NOW



5 THINGS TO KNOW ABOUT SATYA NADELLA

Microsoft's new CEO has bold visions for the future of the company, but what's his story?

READERS' CHOICE: LAPTOPS AND DESKTOPS

Here are your picks for the top Mac and PC system choices.

BITCOIN COMES TO RETAIL WITH BITTAG

This new development makes live pricing for Bitcoin purchases a reality.

CHAT

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Privacy and the Connected Car



The entire computing scene has reversed course.



JOHN C. DVORAK

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DIGITAL LIFE



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Tools for Better Meetings

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Where to Find Free Wi-Fi Anywhere

HEALTH

The Top Online Weight Loss and Fitness Programs

COCO'S CORNER

Raising My Home's IQ

APPSCOUT

Our Favorite Apps for March



Redefining Personal Computing



DIGITAL DRIVE

The April 25, 2006 issue was the last time *PC Magazine* featured a car on its cover. Recent advances in connected cars have made this the right time to do so again.

When I first started at *PC Magazine* in 2006, Editor-In-Chief Jim Louderback put a car on the cover. It was timed to drop in conjunction with the New York Auto show and it looked unlike anything we'd ever done. It raised some eyebrows on staff and in the industry, but Jim wanted to send a message: The era of the connected car is coming. The definition of "personal computing" was changing, and *PC Magazine* needed to change with it. We haven't had a car on the cover since.

But if 2006 was too soon to put a car on the cover, now is the right time to do so. Automotive stories dominated the Consumer Electronics Show this year in Las Vegas. Before the show even started, Google announced the formation of the Open Automotive Alliance, a group of car and tech companies looking to standardize on Android as the in-car operating system. And Audi's keynote included two self-driving cars, including one with laser lights. Meanwhile, Ford is busy adding apps to its AppLink platform and is exploring what it can do with all of the data generated by smart vehicles.

For this month's feature on the connected car we sent Jamie Lendino to the Detroit Auto Show. New features have always helped sell cars, but in Detroit Jamie found an industry that's focusing as much on app development and connected services as on conventional automotive selling points like fuel economy and performance. Auto makers need to deliver more than four doors and four wheels; they need to deliver services for the lifetime of the

“

As personal computing evolves, *PC Magazine* will evolve with it.

”

vehicle. And it can't just be for the luxury market—it has to be for everyone. Jamie's piece shows the vendors that get it.

Of course, all this connectivity will change our relationship with our vehicles—and not all of the changes will be for the better. *PC Magazine* turned to veteran automotive journalist Doug Newcomb to see how prepared the industry for the privacy issues that connected cars will stir up. His conclusions may surprise you.

The car isn't the only high-tech renovation in this issue. Supermodel Coco Rocha discusses how she's giving her old stone farmhouse a makeover with the help of some Philips hue light bulbs, a Belkin WeMo sensor, and a little ifttt. And yes, that really is as cool as it sounds.

Indeed, this entire issue could be dedicated to redefining “personal computing.” We have reviews of a reinvented watch (the Pebble Steel), a reimaged smoke detector (the Nest Protect), and a curved OLED HDTV (the LG 55EA9800). Of course, if you just want the best laptop to get work done, we can help you out there as well (the Lenovo ThinkPad X240).

Rest assured that as personal computing evolves, *PC Magazine* will evolve with it. If you like the issue, subscribe. We will redefine “personal computing” again next month.



dan_costa@pcmag.com

What's New Now

**5 THINGS TO KNOW
ABOUT SATYA NADELLA**

**YOUR FAVORITE DESKTOPS
AND LAPTOPS**

**BITCOIN COMES TO
RETAIL WITH BITTAG**

TOP GEAR

CHAT: DESIGNING *ROBOCOP*

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5 Things to Know About Satya Nadella

BY CHANDRA STEELE

Microsoft has officially named Satya Nadella, executive vice president of the cloud and enterprise group at Microsoft, to succeed Steve Ballmer as the company's next chief executive officer.

In August, Ballmer announced plans to step down within 12 months while Redmond searched for his replacement, leading to speculation about high-profile candidates like Ford chief Alan Mulally and former Nokia chief Stephen Elop. Founder Bill Gates will also leave his role as chairman and serve as Nadella's technology adviser.

"Satya is a proven leader with hard-core engineering skills, business vision and the ability to bring people together," Gates said in a statement. "His vision for how technology will be used and experienced around the world is exactly what Microsoft needs as the company enters its next chapter of expanded product innovation and growth."



Photo courtesy of Microsoft

Nadella has said that, under his leadership, Microsoft's strategy will be about offering innovation in a "cloud-first, mobile-first" world. He also said that Microsoft exists today because it has repeatedly innovated, and that in the future it is important that the company thinks about new devices and services it is uniquely positioned to bring to market. "It's not about one single device anymore.... The average customer has four devices and wants to use them all," he said. "Constructing those experiences is front and center for us."

Otherwise, Nadella is a largely unknown quantity, partly because during his 22-year tenure at Microsoft he's held the sort of nose-to-the-grindstone jobs that have kept him out of the spotlight. But he's also not particularly active on social media; Nadella's Twitter account has been ignored since 2010 and his user photo is still an egg. In a "Meet the CEO" bio released after his appointment, Nadella talks about his passion for cricket and how he too eagerly signs up for online classes to pursue the "crazy ambitions in the 15 minutes I have in the morning. You know, I'm trying to listen to a neuroscience class or something. I kind of ask myself, why are you doing it? But I love it."

BRAIN TRUST

New Microsoft CEO Satya Nadella pictured above alone, and below with (left to right) former CEO Steve Ballmer, founder Bill Gates, and chairman John W. Thompson.

Photos courtesy of Microsoft





SO WHAT ELSE DO WE KNOW ABOUT SATYA NADELLA?

1. He didn't stand out early on.

“Truth be told, there was nothing spectacular about Satyanarayana Nadella, registration number 8419218,” begins a *Times of India* story about his college years at Manipal Institute of Technology. The school's director, who taught him 25 years ago, could not recall him but said his records show he was a “first-class student.”

2. He's been busy behind the scenes at Microsoft.

Nadella's projects have included building out Dynamics, the company's customer relationship management and enterprise resource planning business; online services, including Bing; and cloud services.

3. His leadership skills come from what he's learned from his bosses, including Ballmer, and his cricket coach.

“Perhaps more than anything, I think playing cricket for [Hyderabad Public School] taught me more about working in teams and leadership that has stayed with

TAKING THE REINS

In his first interview as CEO of Microsoft, Nadella spoke to Steve Clayton about his personal experience and his vision for guiding the company into the future.



This notion of being able to collect all data, to be able to reason about data ... is what we will see through the next ten years.



me throughout my career,” Nadella said in an interview with the *Deccan Chronicle*. “There was this one particular incident in a match where my school captain noticed I was bowling some really ordinary stuff. He took over the next over himself, got our team the much-needed breakthrough and then threw the ball back to me in the next over! I will never forget that. What made him do that? Is this what they call leadership? These are the kind of questions I have since reflected on as I approach many of the things I do today leading teams.”

Photo courtesy of Microsoft

4. As someone who's gone against Google's lead business, he sees a future that's all about data.

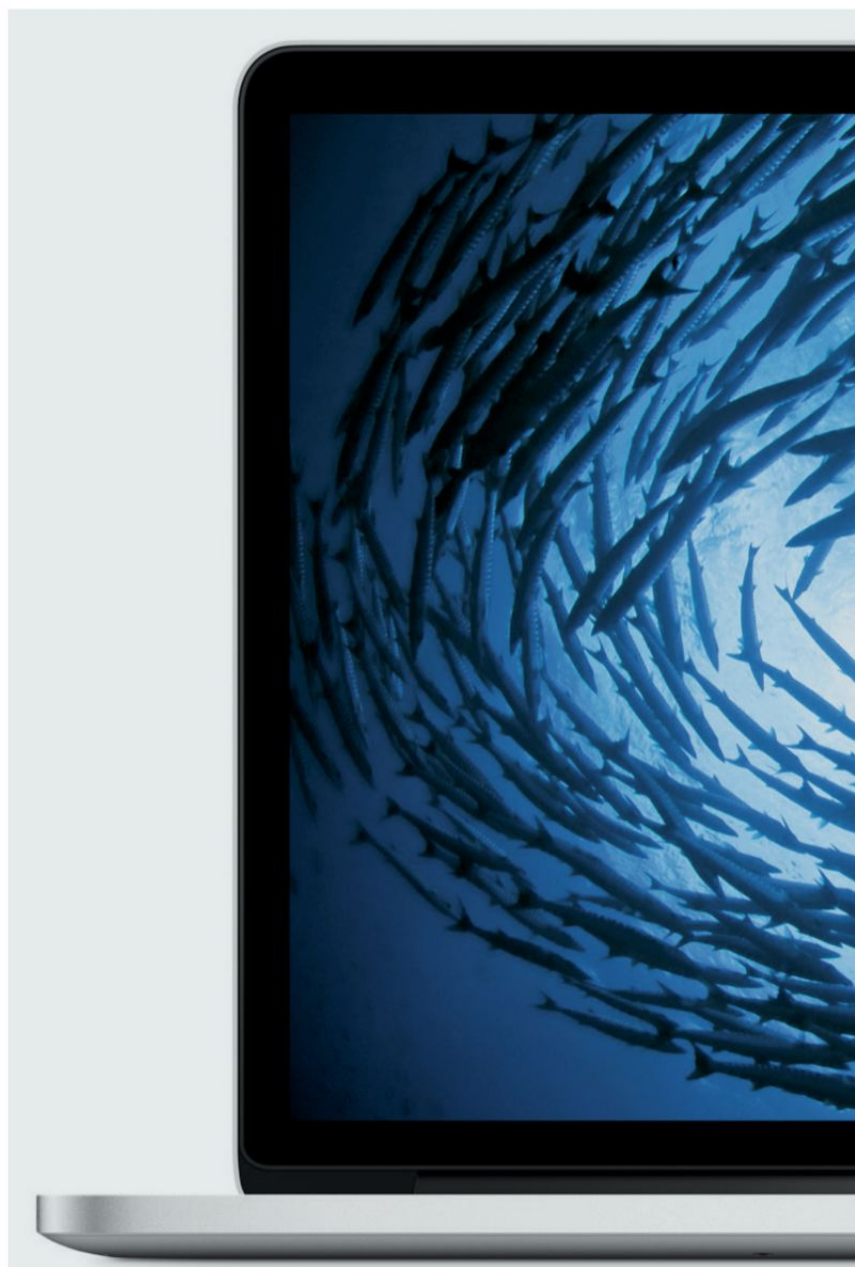
“This notion of being able to collect all data, to be able to reason about data, and have this ambient intelligence that's powering every experience I think is what we will see through in the next ten years,” Nadella said at the January LeWeb conference.

5. He shares Salman Rushdie's literary tastes.

Nadella likes the novel *All About H. Hatterr* by G.V. Desani. The 1948 tale of a man's search for enlightenment was long out of print, though it was praised by Rushdie (*Midnight's Children*, *The Satanic Verses*) as the progenitor of modern literature in India.

Your Favorite Laptops and Desktops

BY BEN GOTTESMAN



We see many alternatives to traditional laptop and desktop computers these days, such as iPads, Android tablets, and Chromebooks, but currently these devices are bought primarily as additional computing devices, not as replacements for Windows PCs and Macs. Although apps and cloud-based services provide useful alternatives to traditional desktop software, they often still don't deliver the reliability, speed, and

2014 READERS' CHOICE WINNERS

Apple was on top for the seventh year in a row in our annual survey of the products and companies *PC Magazine* readers trust the most.



**For Apple, it's
lucky seven—
seven years in
a row that
the company
has won the
PC Magazine
Readers'
Choice award
for laptops.**



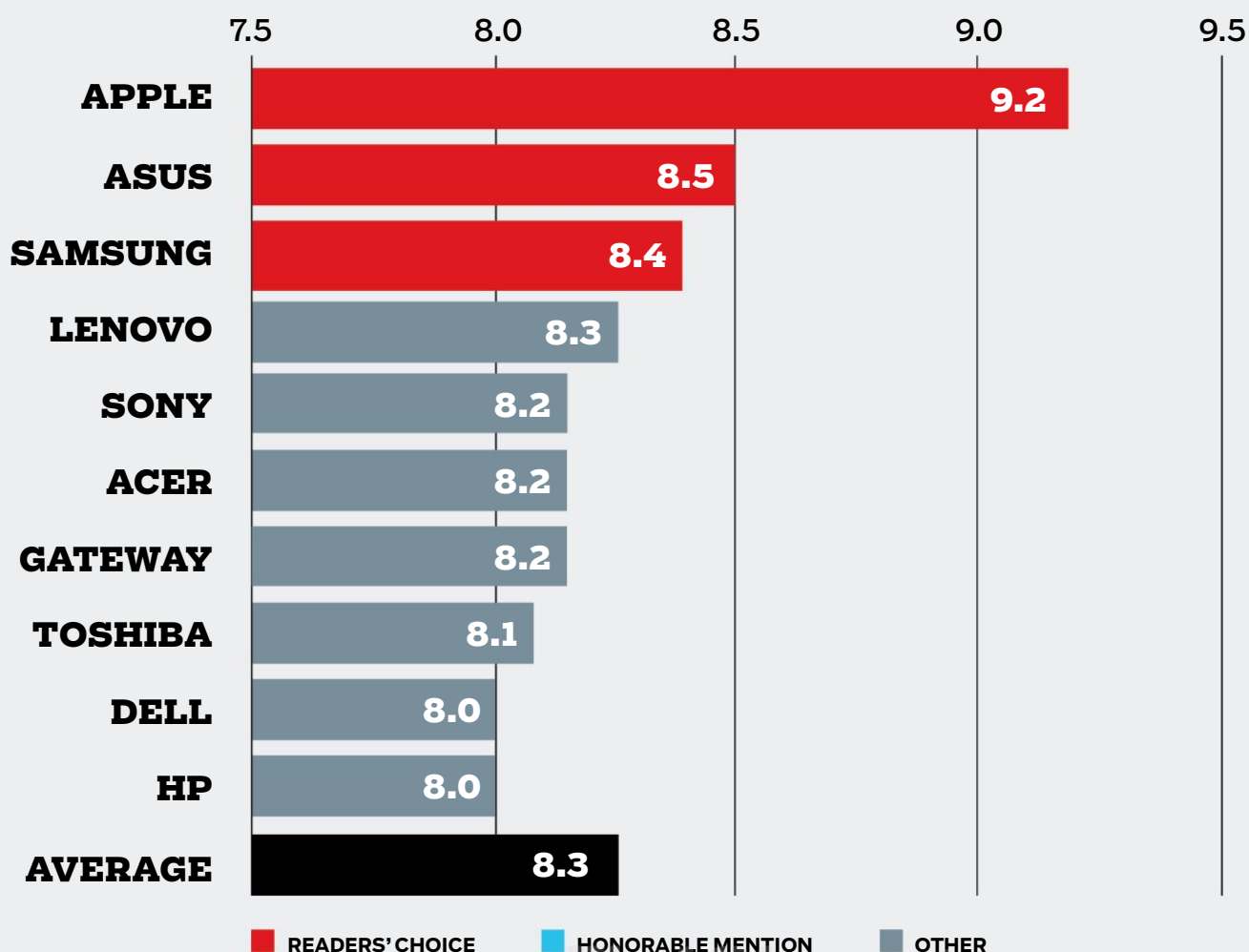
compatibility of programs like you find with Microsoft Office, Adobe Photoshop, iMovie, or even popular games that run on Valve's Steam platform.

Respondents were asked to rate the computers that they use at work and at home. If you're in the market for a new computer, use the results to help you pick a product from a company that's focused on satisfying its customers. If you recently bought a new PC, the survey results will hopefully provide affirmation that you made the right decision.

LAPTOPS

For Apple, it's lucky seven—seven years in a row that the company has won the *PC Magazine* Readers' Choice award for laptops. The company receives exceptionally high ratings from our readers for overall satisfaction: 9.2 on our scale of 0 (extremely dissatisfied) to 10 (extremely satisfied). Apple also has a high likelihood to recommend rating (9.3). These are the same numbers it

LAPTOPS: OVERALL



received last year from our readers.

Average ratings of 9.0 or above are rare in our surveys, yet Apple also received a 9.3 for satisfaction with reliability, which was actually down slightly from its score last year of 9.4.

Many people still prefer a Windows-based computer. If that describes, you, look to Asus and Samsung, which also earn Readers' Choice awards. Both companies are creating track records for consistently delivering highly satisfying experiences. For Asus, this is the third year in a row at the top, and Samsung wins Readers' Choice for the third time in the last four years. The companies had identical likelihood to recommend ratings (8.6); Asus was slightly ahead in overall satisfaction (8.5 to 8.4) and reliability (8.8 to 8.7). Asus' reliability was also evident in the relatively low percentage of systems that needed repairs in the last year (8 percent). Only Gateway had a smaller percentage (7 percent). The average among all laptop makers in the survey is 11 percent.

If you're a user who frequently needs computer help, get a Mac: Apple continues to provide the highest satisfaction for tech support (8.6) and repairs (8.7). Among Windows PC companies, Dell rated highest for customer satisfaction at 7.4, up from last year's 7.2. Respondents were generally satisfied with Dell's repairs, but Lenovo rated slightly better (7.4 to 7.3). Toshiba also rated well for satisfaction with repairs at 7.2, a big jump from last year's 6.3, but satisfaction with Toshiba's technical support dropped from 6.5 in 2013 to 5.9.

Apple and Asus also share our Readers' Choice award for laptops less than a year old, as they did



THEY DO WINDOWS

Though Apple remains at the top of the laptop rankings, Asus and Samsung top the list of companies that put out Windows-based systems.

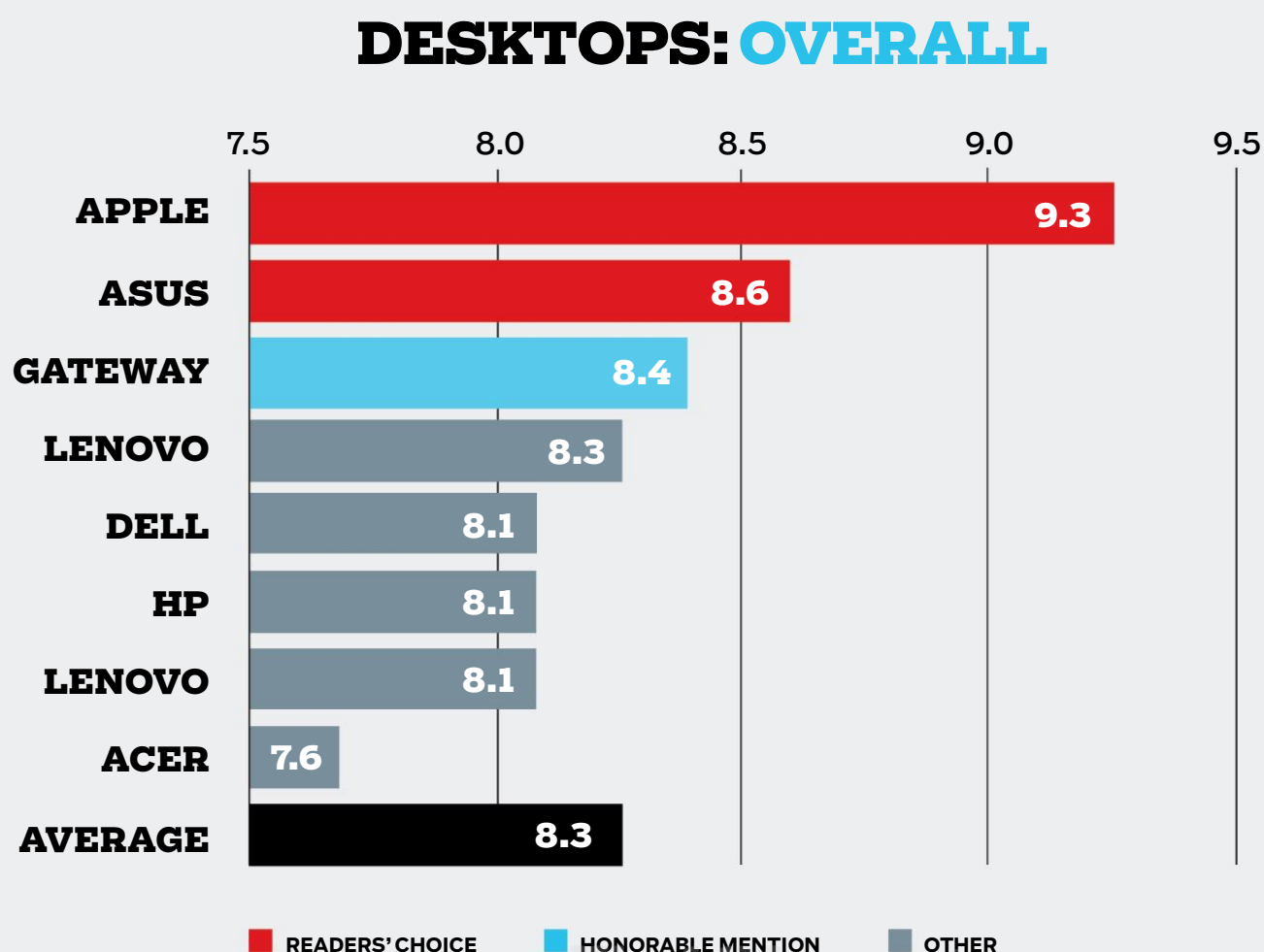


in 2012. Again, Apple topped 9.0 for overall satisfaction (9.4), reliability (9.5), and likelihood to recommend (9.4). It also had the lowest percentage of new laptops needing repairs (5 percent). Asus' first-year laptops rated very impressively for reliability (9.1) and only 7 percent of the machines needed repairs. Meanwhile, 98 percent of Apple and Asus respondents with new machines said those systems worked properly right out of the box or they were able to fix any issues themselves—these were the highest percentages among all the companies rated. Last year, Toshiba was right behind Asus in satisfaction with its laptops less than a year old, but this year its new computers plummeted to the bottom of the survey in overall satisfaction (7.9), reliability (8.3), and likelihood to recommend (7.9).

DESKTOPS

Just as in laptops, Apple and Asus are the class of the desktop PC category—both companies repeat as Readers' Choice Award winners.

Apple actually improved upon its already-stellar scores from 2013 in both overall satisfaction and likelihood to recommend; the former rating increased from 9.2 to 9.3 and the latter went from 9.3 to 9.4. Satisfaction with reliability stayed the same, but at 9.4 that's hardly something to complain about. Apple's satisfaction with tech support remains extremely high at 8.9, an improvement of 0.2 over last year's impressive score of 8.7. We're also pleased to see that the percent of Apple desktops needing repairs dropped from 13 percent, the second



WorldMags
ear's survey to 8

The image shows the back of a black Apple Mac Pro (2013). At the top center is the Apple logo. To the left of the port array is a circular sensor with a lock icon. The port array is a vertical rectangle containing, from top to bottom: two USB 3.0 ports with a USB symbol, two Thunderbolt ports with a lightning bolt symbol, two FireWire 800 ports with a double-headed arrow symbol, an HDMI port labeled 'HDMI', and a power port. The device is set against a solid blue background.

A large ASUS monitor is shown at an angle, displaying a vibrant landscape of snow-capped mountains, a dense green forest, and a clear blue lake reflecting the scenery. The ASUS logo is visible on the bottom bezel of the monitor.

WorldMags.net

Bitcoin Comes to Retail With BitTag

BY JAMES PLAFKE



Though Bitcoin has barely broken into the realm of Internet retailers, it has had an even more difficult time making its way to the real world: retail stores, restaurants, supermarkets, and basically anywhere else you spend the majority of your money. One reason for this is because the price of one bitcoin, or BTC, is completely volatile: It may crash and burn or meteorically rise at the drop of a hat, and it'd be difficult giving a product a static price. BitTag, which

DYNAMIC PRICING

It can be difficult to know just how much your Bitcoins will buy, but the BitTag system aims to always show an up-to-date price for every item.

COMMAND AND CONTROL

An iPad app lets store owners set up BitTags or process transactions that use Bitcoins.[a](#)



was recently introduced and shown off in London, aims to alleviate the issue of those ever-changing prices by using an ever-changing price tag.

The BitTag is a little white box that hangs around, for example, clothing on a rack, in place of the usual white tag we're accustomed to. The center of the box contains an OLED display that connects to an Internet-enabled tablet via Bluetooth, and updates the price of the product based on the current value of one bitcoin. To make a purchase, the customer shakes the little box, which displays a bitcoin QR code on the screen that the customer can then scan with a smartphone. BitTags are managed with an associated iPad app.

Unfortunately, one BitTag costs about \$65, which would get extremely expensive if enough were purchased to outfit a store's entire line of products. This is why BitTag is currently aimed at a niche market, says creator Samuel Cox. Even if cost weren't an issue, the device has a few other potential problems to overcome. For example, if the store loses its Internet connectivity, the price of an item will no longer update. Furthermore, though being tethered to a tablet through Bluetooth is an affordable and clever way to handle that Internet connectivity, relying on a middle-man device just to list a product's price could lead to unforeseen issues.

The niche market appeal could certainly work for the product, however. It would be a novelty to walk into Foot Locker and grab some new Jordans with your hard-earned bitcoins.

What We Love Most This Month

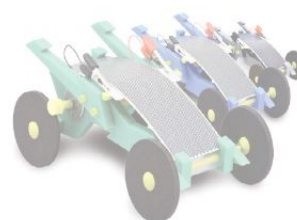
BY MEREDITH POPOLO



LUMOBACK

In the morning your posture is perfect, but by midday you've melted into a puddle like a snowman sitting in your office chair. Lucky for you and your spine, Lumoback is a sensor belt worn underneath your clothes that monitors your posture. When you start to slouch, the sensor gently vibrates, reminding you to sit up straight. It can also count steps taken, time spent sitting, calories burned; and your sleep habits and the free iOS app lets you track your progress over time.

\$149.95 lumoback.com



What We Love Most This Month

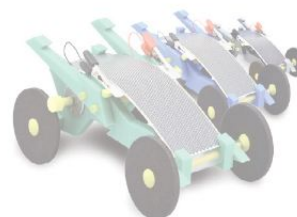
BY MEREDITH POPOLO



THE IPHONE BOOM MIC

You filmed your daughter's piano recital on your iPhone, but when you go to play it back... silence. Never miss a song, speech, or show again with this compact mic from Photojojo. It plugs into your iPhone's headphone jack to capture crisp, professional-style sound, and has two directional settings for near and far recording. It runs on one AAA battery (included).

\$40 photojojo.com



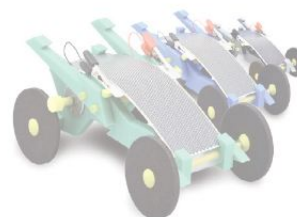
What We Love Most This Month

BY MEREDITH POPOLO

TINKÉ

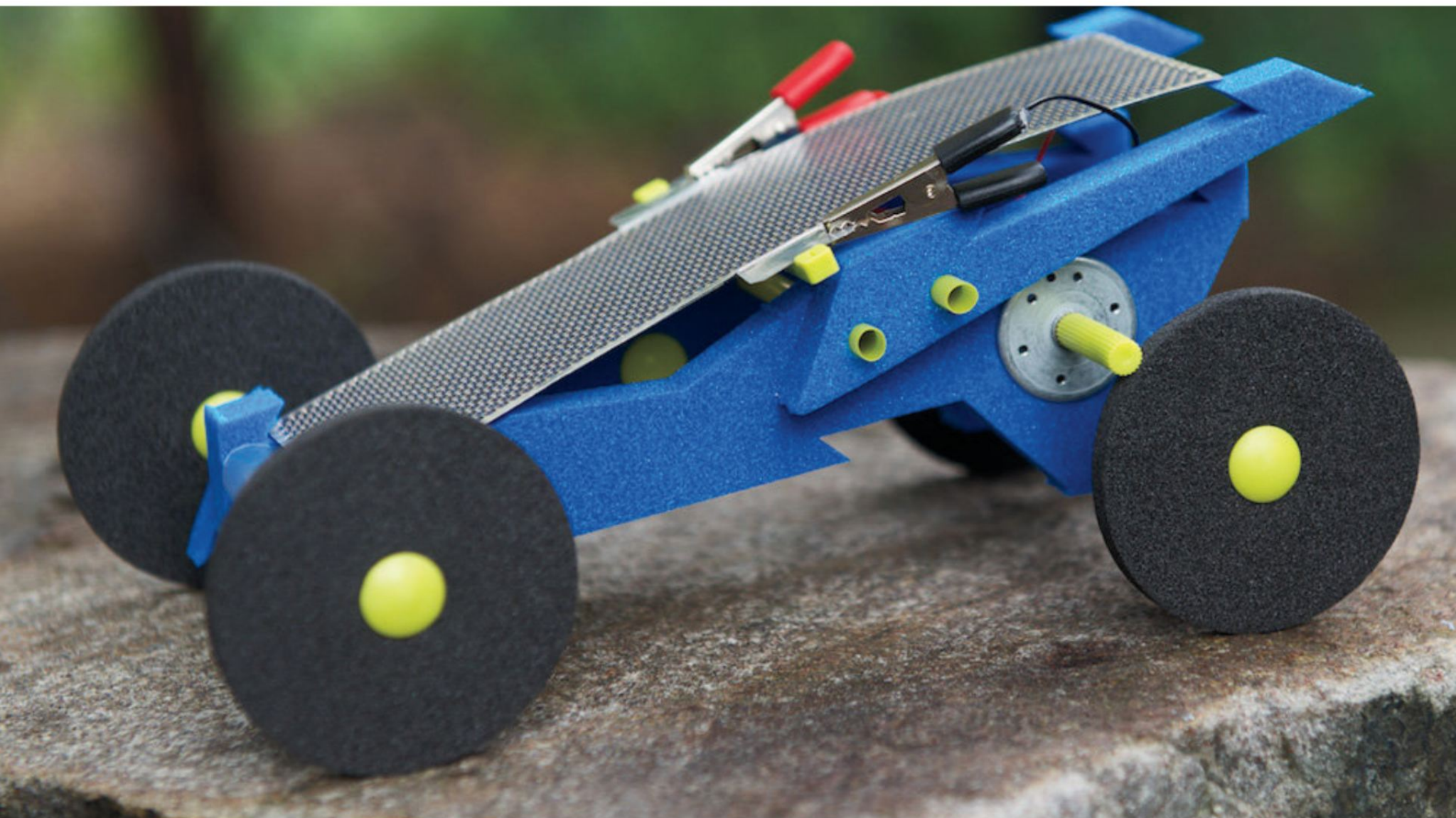
How fit are you really? Tinké can tell with the touch of your finger. The device plugs into your iOS or Android smartphone and measures your heart rate, respiratory rate, blood oxygen level, and heart rate variability. Tinké uses this data to calculate a personalized Vita Index, which indicates your fitness level, and a Zen Index, which indicates your relaxation level. You can view trends over time to get a fuller picture of your health.

\$119 zensorium.com/tinke



What We Love Most This Month

BY MEREDITH POPOLO



VOLTA RACER

On your mark, get set, build! This DIY solar race car can be assembled in 15 minutes to teach kids about solar energy and mechanical engineering. Its frame and wheels are made of lightweight and durable recycled materials, its axles are bamboo, and it's powered by a flexible polycrystalline solar cell. The car can drive along gradual inclines and mild rugged terrain, reconfigure the motor and solar panel and it can run at a higher speed on flat ground.

\$24.95 toylabs.com



Designing *RoboCop*: From Classic Paintings to 3D Printing

Martin Whist, production designer on *RoboCop*, was inspired by artistic techniques old and new in creating the robotics and technology for this remake of the 1987 hit movie. BY ERIC GRIFFITH



RoboCop returned to the big screen February 12, after a 21-year absence, but this isn't the somewhat clunky, albeit adored version with Buckaroo Banzai inside the seldom-removed helmet and never-removed cyborg body. This is a total franchise reboot by director José Padilha.

The basics are the same: A good cop named Alex Murphy (played by Joel Kinnaman) is almost killed and a corporation uses his body as the basis for making the next great leap in law enforcement: a cyborg cop. But now RoboCop has a motorcycle, a stun gun to go with his regular gun, and a super-sleek new look.

Where did that look—not to mention the overall design of the movie—come from? Production designer Martin Whist was on the scene early on. He's worked on fan-favorite flicks including *Super 8*, *Cabin in the Woods*, and *Cloverfield*. He knows his mayhem, but he admits he's no technology expert. So how did he approach the design of the world in 2028, where robots walk the streets (in foreign countries, at least)?

"The design approach was to be, let's say, conceivable for people," said Whist in an interview with *PC Magazine*. Because the film only takes place 14 years from now, he didn't want to get too far-fetched with the technological leaps he made. "It wasn't in our interest to 'out imagine' someone's notion of what the future would be for technology. What's actually happening in research is enough."

What kind of research? Materials science, robotics, brain-to-hardware interfaces, 3D user interfaces—all of them are out there and being tested right now. Even the burgeoning trend in wearable tech sets a precedent. "My feeling is, as we progress, as we advance, the devices become less apparent, smaller and less physical, but more robust and sturdy in terms of capabilities," said Whist. "The duality is between seeing less, but more happens."

FINDING INSPIRATION

Martin Whist (top) drew from sources as diverse as Francis Bacon and 3D printing to help him create the universe for the new film version of *RoboCop*.

Photos courtesy of Columbia Pictures



He wanted the evolution of technology to be apparent even during the time frame of the movie. In the opening, there's a scene in an older police station, where you see computers of the future—but they're still obviously desktop computers and monitors. As the film advances, we visit the insides of the villainous OmniCorp that creates RoboCop and other robots. Here, the "PCs" are more like little bars with 3D holographic screens and keyboards projected on desk surfaces. It's the Leap Motion of the future on steroids.

Francis Bacon Helps the Design

The Irish painter Francis Bacon (1909-1992) was known for his abstract images of isolated figures in turmoil. Early on in the creation of *RoboCop*, Padilha sent a few images of Bacon's work to Whist. The two used their look as the "underlying visual metaphor" of the film, Whist said.

In fact, in one scene, Whist made sure that there was a triptych of Bacon paintings behind the character of Raymond Sellars, the CEO of OmniCorp, played by Michael Keaton.

RoboCop spends his downtime in a lab where doctors like the one played by Gary Oldman keep an eye on him.

CRIME HAS A NEW ENEMY

Scenes from the new *RoboCop*, showing Michael Keaton (top), Joel Kinnaman and Abbie Cornish (middle), and Kinnaman and Gary Oldman (bottom).

Photos courtesy of Columbia Pictures



“The lab,” said Whist, “is somewhat a 3D version of a Bacon, where ... the architecture itself is very, very austere, straight, rectilinear, 90 degrees, as if it emulates Bacon’s lines. He creates boxes and perimeters and containment devices in his pictures for the more biomorphic imagery—the sometimes grotesque, tough imagery of a human form.”

When RoboCop is docked in the lab, he’s trapped in the device, just like the figures in Bacon’s paintings. Whist thinks that spills over into the mental and emotional state of RoboCop as a man trapped within a suit under the control of a corporation.

The Suit Design Process and 3D

Whist worked with an extensive team of people—researchers, illustrators, designers galore. They looked into modern-day robotics and vehicles, and of course reference imagery beyond Bacon. He listed Formula One race cars, stealth bombers, time-trial cycles, and the 1979 movie *Alien* as references.

Whist got to redesign the legendary ED-209 robots, a big part of the original *RoboCop* films. Now these bipedal tanks are even more mobile and aggressive, and rendered in CGI rather than the originals’ somewhat hokey-looking stop-motion. New to the remake, however, is the EM-208, a foot-soldier bot that is featured in the film’s trailer. For the look of the EM-208, Whist says he was inspired by none other than legendary *Star Wars* bounty hunter Boba Fett.

When it came to the look of RoboCop himself, Whist knew he had to look to the source material: the original movie directed by Paul Verhoeven. Although some fans of the original might be stunned at the black, Whist made sure there’s a full homage to actor Peter Weller’s original look—when RoboCop comes out of his coma, he looks like Weller did in the 1987 film. But the remake shows the progression of time as the robotics and cybernetics involved are perfected.



PART MAN. PART MACHINE. ALL COP

More glimpses of Whist’s work on *RoboCop*. Whist adapted the look of the original 1987 film for the remake to show how technology has evolved.

Photos courtesy of Columbia Pictures



Photos courtesy of Columbia Pictures

Together, Whist and Legacy Effects made sure the suit was just right, using 3D images to nip and tuck things that won't work on a human body.

"Most of our work is done in 3D," said Whist. They burned through 2D pictures quickly to get to the 3D modeling, especially when it came to the suit. The full design then went to Legacy to build. The company is the go-to special effects house for such things: They built the suits for *Iron Man*, *Pacific Rim*, and handles effects on hundreds of commercials and features. One Legacy partner, John Rosengrant, received an Oscar nomination for Best Visual Effects for *Real Steel* (2011).

These days, the next step is 3D printing. "It's changed our world," said Whist. "It's mostly done through printing, that's why it's so important to get the 3D files absolutely perfect. There isn't another interpretation—no sculpting process or making casts anymore. We output the 3D files."

In at least one preview video of Legacy's work, an Envisiontec Perfactor 3D printer can be seen.

But Legacy not only built the device, it was on set to make sure it functioned properly, to help Kinnaman and stunt people suit up and remove it, as well as tracking the damage it endured for continuity.

In a recent interview, Keaton jokingly called the new RoboCop costume a "sissy suit" when compared with his outfit from 1989's *Batman*. Unlike that rubberized armor, Kinnamen had duds he could actually remove parts of to go to the bathroom, plus he could turn his head. Best of all, it had an air-conditioning element to keep him cool. All thanks to Legacy Effects.

Opinions

TIM BAJARIN

SEBASTIAN ANTHONY

SASCHA SEGAN

DOUG NEWCOMB

**Microsoft
may just
have to cut
its losses
and make
the jump.**

SEBASTIAN ANTHONY

SHOULD MICROSOFT DROP WINDOWS
PHONE FOR ANDROID?

It's Time to Split Up Microsoft

My first visit to Microsoft was in 1982, when it was still housed in a red brick building in Bellevue, Washington, and had fewer than 100 employees, if memory serves. You could walk the halls and easily spot Bill Gates, Microsoft cofounder Paul Allen, and other top executives.

Today's PC industry owes a lot to Microsoft, and the company's overall role in driving our industry has been enormous. But Redmond is facing challenges as computing goes mobile and previous cash cows, like Windows, are no longer making the grade. As a result, it was clear that the company needed to change its leadership from the top down. More importantly it needed to re-architect itself for a world of computing that is much different than the one it has known over the past 30-plus years.

The choice of Satya Nadella as the new CEO of Microsoft is very important to redesigning this pioneering software company. It underscores that Microsoft's board understands that the company's future lies in business and enterprise, and that they looked for a leader who could keep them moving forward in this growing segment of their business. Microsoft is already a powerful player in servers, cloud, and IT software, accounting for two-thirds of company revenue. But it must continue to innovate within this segment to stay relevant.



Tim Bjarin is president of Creative Strategies and a consultant, analyst, and futurist covering personal computers and consumer technology.

On the other hand, the PC business will never again be a growth market. Demand for PCs declined by 10 percent last year, and although we do see some increased demands for PCs in the next one to two years due to IT refresh rates, the fact remains that demand will stay steady at about 280-300 million a year going forward and most likely will continue to decline over the next five years, especially in consumer markets.

Where Microsoft is really challenged is in mobile, as the growth of smartphones and tablets continues to be strong. Competition from Apple's iOS and Google's Android, which together dominate the mobile market, makes it hard for Microsoft's Windows Phone and Nokia to gain a foothold. Although smartphones and tablets do cross over to business via BYOD, the role of mobile devices and especially the segment's growth will be driven by consumers and Microsoft is still catching up.

THE MICROSOFT SPLIT

Because of all these internal challenges, within 18 months I believe that Microsoft needs to be broken out into three distinct divisions or possibly separate companies.

One division should be focused on IT, enterprise, business and cloud software, and business-focused OSes and services. This group would have the charter of moving all of Microsoft's software to the cloud, stabilizing the Windows OS PC business, innovating within server software, and establishing a set of software-as-a-service solutions primarily for enterprise and SMB. I could see it even acquiring a dedicated services organization to enhance its current software services and consulting practice. This group would be responsible for evolving the



The PC business will never again be a growth market.



Windows OS for enterprise, consumers, and education as well as Office 365, but with full knowledge that the PC as an OS vehicle will never be a growth market again. This group would also oversee the Surface Pro business, although if it were smart, it would get out of PC hardware altogether and let its remaining PC customers handle that part of the business. Bing should also be run out of this group as it's a cloud service.

The mobile division would be solely responsible for smartphones and consumer tablets. Like Google with Chrome and Apple with iOS, which have distinct operating systems for PC and mobile, this group should scale Windows Mobile OS up for use on tablets and optimize it for various-size tablet screens instead of trying to push a PC OS down for use on smaller mobile screens. Even if it does this, however, it needs to fix a huge problem Windows has when it comes to software. Windows Mobile OS and Windows 8.1 will never have the long-tail software apps that iOS and Android have today and in the future. This puts Redmond at a huge competitive disadvantage. I believe that this group has to bite the bullet and find a way to bring Android apps into Windows Phone, thus giving Microsoft a fighting chance to compete with Apple and Google and their partners. There are various ways to do this, although the Bluestacks Android on Windows solution is the best that I have tested to date. Of course, Microsoft's Nokia acquisition would be critical to this division and its hardware, which could run Windows Phone as well as Android. This group could also become involved in wearable devices and other mobile-based hardware and software that shows promise.

The Entertainment division would be highly consumer-focused and take aim squarely at the



Windows Mobile OS and Windows 8.1 will never have the long-tail software apps that iOS and Android have today and in the future.



living room. The new Xbox One already serves as a set-top for OTT streaming services like Hulu or Netflix as well as delivering games, but Microsoft could and should expand its role as a set-top box in the living room and tie it closer to its various consumer online services such as Bing and future consumer cloud apps. Microsoft could really kick this into high gear if it bought Roku and integrated it not only into Xbox One but pushed to get the Roku box and technology into actual TV sets like Roku is doing today—and make an even broader play to get Microsoft software, apps, and services into the home. This group could also oversee future work on the connected home and other IOE consumer related hardware, software and services.

ONE MICROSOFT ISN'T ENOUGH

I suppose this is a rather simplistic view of how Microsoft should ensure its future, but doing all this under a single Microsoft umbrella is unlikely to work. By creating three distinct divisions or setting them up as separate companies, each would have a clear set of goals, charters, and roles with a tighter focus, and thus more of a fighting chance to compete, especially against Apple, Google, and Samsung. I have no idea if this new CEO will go down this path but I do believe that if Microsoft doesn't do something drastic along these lines, its overall business will continue to decline and its relevance in the future, especially in consumer markets, will be seriously in doubt.



If Microsoft doesn't do something drastic along these lines, its overall business will continue to decline.



Should Microsoft Drop Windows Phone for Android?

Here's an idea: What if Microsoft's new CEO, Satya Nadella, drops Windows Phone in favor of Android?

This might sound crazy, given the amount of time and money that Microsoft has put into Windows Phone, but desperate times call for desperate measures, right? Adding credence to this idea is the Nokia X (codenamed Normandy), a Lumia-style phone that runs Android. This midrange phone, despite Microsoft's acquisition of Nokia, still looks like it's going to come to market this spring. Is it possible that Microsoft is waiting to see how the Nokia X does before making a decision on the continuation of Windows Phone?

STUCK WINDOWS

Now, there is obviously a lot of inertia against this idea. Microsoft has worked very hard to make Windows Phone a viable third option alongside iOS and Android. It's not quite there, but it's getting tantalizingly close. Presumably, Windows Phone 8.1, due out soon, will finally push us over the threshold. Likewise, and perhaps more important, Microsoft has spent a lot of time and money cultivating an army of Windows Phone app developers—developers who, confronted with the runaway success of iOS and Android,



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probably took a lot of convincing.

But at some point, possibly soon, Microsoft may just have to cut its losses and make the jump to Android. The hard truth is that Windows Phone, despite being around for more than three years, has a worldwide market share of just a few percent. Last year was good for Microsoft, with the success of Nokia's Lumia phones almost doubling Windows Phone's global market share, but going from 2 to 3.5 percent isn't something to get all that excited about. From 2012 to 2013, Android went from 75 to 81 percent of the market. Unless something utterly catastrophic happens to Android or iOS, this situation is unlikely to ever change.

FORKING ANDROID

If Microsoft did switch its mobile efforts to Android, it would likely end up forking the Android Open Source Project and making its own version, just like Amazon. Judging by leaked photos of the Nokia X, which has a UI similar to that of Windows Phone, it's possible Nokia has already begun the process. Microsoft would then have to decide whether to seek Google certification and access to Google Play's library of one million apps, or to strike out on its own. The second option might seem a little bit crazy after the painstaking process of building an app ecosystem for Windows Phone, but the Amazon App Store seems to be doing okay. Microsoft wouldn't have to get developers to write new apps for its Android phone, it would just have to get developers to re-submit their apps (perhaps with a few tweaks for any user experience disparities).

There's no reason that your Microsoft Account couldn't be used to automatically populate your contact list, sync to OneDrive, and bring over



Windows Phone, despite being around for more than three years, has a worldwide market share of just a few percent.



many of your other Windows Phone settings. Microsoft already has a fair bit of experience developing for Android, too; Skype, Microsoft Office, and all the various connectors for your PC are already there. There is already an Android version of Nokia's Here maps. As far as Microsoft is concerned, moving to Android wouldn't be that painful. (Thousands of developers, who have spent millions of hours writing Windows Phone apps, might be a bit upset, though.)

It's also worth pointing out that Microsoft already appears to own a lot of patents related to Android. Over the last few years, Microsoft has successfully negotiated licensing deals with every major Android device maker. There are rumors that Microsoft gets as much as \$15 per Android device sold, resulting in billions of dollars per year in revenue—much more than Windows Phone makes. If Microsoft forked Android, it would be able to undercut other Android device makers significantly. Alternatively, it would make a serious incentive for device makers to switch from Google's flavor of Android to Microsoft.

WINDOWS 9

Another possibility is that Windows Phone is probably going to disappear anyway. Microsoft has dropped a few hints that it's moving toward a single, unified platform for smartphones, tablets, and PCs, likely starting with cross-compatibility between Windows Phone and Windows apps. In such a scenario, it's possible that Android could be kept on as a cheap, low-end alternative—which is exactly what Nokia appears to be doing with the Normandy/X.

When all is said and done, it's tough to say whether it would actually be advantageous for Microsoft to switch its mobile efforts to Android.



There are rumors that Microsoft gets as much as \$15 per Android device sold, resulting in billions of dollars per year in revenue.



It's tempting to say, "Go on, do it, what have you got to lose?", but that's not exactly a sound business decision. There is absolutely no guarantee that a Microsoft fork of Android would be a success. The hardware would almost certainly be nice, but the software ecosystem—the most important part—is hard to predict.

Microsoft would be starting back at square one with 0 percent of the market, and it would still be an uphill struggle against its two nemeses—neither of which are going to stand still while Microsoft tries to turn around the oil tanker. Even with a new CEO at the helm, I doubt that Microsoft has the guts to switch to Android. It sure would make the mobile market a bit more exciting than the current two-horse race, though.

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**I doubt
Microsoft has
the guts to
switch to
Android.**



More Everything, Fewer Subsidies

Make no mistake: Phone subsidies are on their way out. Verizon's new "More Everything" promotion tries to usher customers over to the company's new "Edge" payment plan, which is just a fancy way to get people to finally pay full price for their phones. But trust a major wireless carrier to take an idea that should lead to more customer choice and turn it into another way to make money by locking people in.

"More Everything" is the latest aftershock of the seismic shifts T-Mobile's "Uncarrier" plans have been pumping through the wireless ether. T-Mobile may be the smallest of the four major carriers, but it's ramped up its customer gains into crazy turbo nitrous mode, most recently by offering to pay the other carriers' early termination fees.

Verizon's new plan lowers its prices all around, but saves price cuts in the most popular data range for smartphone owners (3-10GB) only for people using the company's Edge plan, which is a 24-month installment plan where you pay full price for your phone in exchange for being able to trade it in for a new phone if you've paid off half of it. Now it's also in exchange for a \$10-20 cut per line on your bill. It'll be a \$10 cut for most individuals, as only real power-user families have plans with more than 10GB.

Unfortunately, that doesn't balance out the



Sascha Segan is the lead mobile analyst for *PC Magazine*. His commentary has also appeared on Fox News, CNBC, CNN, and various radio stations and newspapers around the world.

value of the phone subsidies. A \$10 cut over 24 months is \$240, and Verizon is right now laying down a \$500 subsidy on a standard two-year contract with a Samsung Galaxy S4. If you upgrade your phone in month 13 (say, when a new Galaxy comes out) the amount you'd have paid on Edge over 13 months (\$327.86) turns out to be almost exactly what you'd pay for a traditional \$99 subsidized phone plus a \$220 early termination fee. And if you go the traditional-plus-ETF route, you can make back some money by selling your old phone on eBay.

In other words, Verizon Edge is mostly optics, but it's important optics, because if you hold onto your phone for more than 13 months, it becomes much cheaper for Verizon. All of the carriers want to ditch the expensive up-front subsidies they use to sucker consumers in for two-year contracts, but they don't want to give up the two-year contracts. Edge is Verizon having its cake and eating it too.

SO WHAT'S BAD ABOUT SUBSIDIES?

Because getting rid of subsidies now sounds like a carrier scam to make more money, I think we must recap why subsidies are bad—and why Verizon is immune to some of the consumer-positive effects that would come from getting rid of them.

Subsidies are the excuse for contracts (the contract term lets the company recoup the subsidy money), and contracts lock you into a specific service and device. Without subsidies, or so the logic goes, we should be able to switch carriers whenever we want, without having to buy a new phone.

Unfortunately, Verizon has a few walls protecting it from that consumer-friendly



**Verizon Edge
is mostly
optics, but it's
important
optics.**



paradise. Most notably, it's a CDMA carrier. So the barrier of having to buy a new phone may remain. You also can't bring a used phone to Edge and get the discount, or bring a phone you bought somewhere else. You have to pay for a new Edge phone from Verizon.

As I said before, Verizon is trying to both ditch subsidies and keep the contracts. Verizon has a month-to-month plan where you can use any Verizon-compatible phone you want, but it's the worst of all possible payment worlds: You pay full price for your phone (like you do on Edge) but you don't get the Edge service discount of \$10-20 per month.

It's nice that Verizon is lowering prices for smart Edge customers (who exchange their phones before month 10-13, depending on the subsidy they're forgoing) and that the company is increasing its data limits for other customers. These are minor, but positive changes that I'm pretty sure wouldn't be happening if T-Mobile weren't shaking up the industry—another reason the FCC shouldn't let Softbank merge T-Mobile with Sprint.

But "More Everything" doesn't change the basic economics of the industry, which is that Verizon Wireless is the most expensive carrier in the country, relying on strict two-year contracts in exchange for what it advertises as gold-plated, totally comprehensive nationwide coverage. That was the case before Verizon's announcement, and it still is.

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Verizon is trying to both ditch subsidies and keep the contracts.



Privacy and the Connected Car

During a keynote address at CES in January, comments by Ford executive vice president Jim Farley sparked a controversy over privacy and the connected car that quickly turned into a (timely) conflagration.

"We know everyone who breaks the law, we know when you're doing it," Farley said. "We have GPS in your car, so we know what you're doing." He then added, that "we don't supply that data to anyone," meaning Ford doesn't sell the information to third parties.

Farley apologized the following day and said in an interview with CNBC that the Ford folks "do not monitor and aggregate data on how people drive. I've given people the wrong impression. I regret that."

Ford also denounced Farley's comments. "That comment was a mistake and is wrong," Ford spokesman Wesley Sherwood said in response to an email. "We do not track our customers. No data is transmitted from the vehicle without the customer's express consent first."

But the damage had been done and, as with most cases of trading data for services in an increasingly connected world, most drivers don't always realize that they are giving consent. Lawmakers took notice, with Minnesota Senator Al Franken sending a letter to Ford CEO Alan Mullaly asking for clarification on the company's data security.



Doug Newcomb is a car tech expert whose work has appeared in *Road & Track*, *Popular Mechanics*, and many other publications. He is also the author of *Car Audio for Dummies*.

Farley's comments also came on the heels of a Government Accountability Office report that found that automakers store location information on drivers via in-dash navigation system data. A week before that, AAA advised companies to safeguard consumers' data used in conjunction with GPS navigation systems.

CONTEXT IS EVERYTHING

Farley's comments were wrong—but as much in a factual context as a corporate faux pas. And they've also opened up a new front in the battle over data privacy that was bound to bubble to the surface at some point.

I heard Farley make similar comments at a private press dinner at CES, but in the context of providing infotainment features such as finding a destination through cloud-connected navigation and summoning roadside assistance. And it shouldn't come as a surprise to anyone using such services, whether it's Ford Sync or Facebook, that they're trading a certain amount of privacy for connected features.

Ford's navigation provider, Telenav, for example, uses data such as latitude, longitude, route, and destination to provide turn-by-turn directions, traffic and restaurant information, or other services, noted Niall Berkey, Telenav's executive director of business development. "We anonymize and aggregate personal information whenever it is feasible to do so," he said.

"For example, when a user's location data is transferred from a mobile device to Telenav's servers, it's associated with a unique session ID rather than a user's name, phone number, or other information that identifies a particular user," Berkey added. "There's no way to match the session ID information to a specific person."



It shouldn't come as a surprise to anyone using such services, whether it's Ford Sync or Facebook, that they're trading a certain amount of privacy for connected features.



He also pointed out that the information is stored on Telenav's secure servers and isn't accessible to third parties.

THE DIFFICULTIES OF DATA

In an ultra-competitive market in which customers make a large purchase only every six years or even longer and buyer retention is paramount—car companies don't want to alienate loyal buyers by snooping on them. "Automakers are terrified of getting this thing wrong," said Roger Lancot, associate director of Automotive Multimedia and Communications Services at Strategy Analytics.

As much as automakers and others may want to further mine and monetize this data, they're simply not there yet. "They're just now grasping the power of vehicle data," said Mark Boyadjis, a senior analyst of automotive infotainment at IHS Global. "But this also means they don't know yet how to leverage all of it." Boyadjis added that answers to questions on who owns, manages, secures, and decides how the data can be used still need to be determined. "The ecosystem has not yet been laid out."

SECURITY MATTERS

But in the wake of Farley's comments—and data privacy becoming a sensitive subject due to revelations about the NSA's domestic spying—the issue has been forced to the forefront. "Everyone now has data security and privacy top of mind," said Boyadjis.

Farley's foot-in-mouth came just as the connected car hits high speed. "The issue is coming to a head as nearly every car maker prepares to launch customer-facing portals to



Car companies don't want to alienate loyal buyers by snooping on them.



allow access to vehicle data and provide other value-added services, some of which will be derived from collected data privacy,” said Lanctot. “Ultimately, access to data will be empowering for consumers/drivers and dealers.”

He added that the goal for gathering driver data should focus on enhancing vehicle safety, understanding how vehicle functions are used, and anticipating problems to avoid breakdown and warranty claims. “All of [that] will contribute to the design of better cars and reduce the cost of ownership of existing cars,” Lanctot said.

And the price of these services—as with many conveniences of the connected lifestyle—will be how much personal data drivers are willing to give up. Or whether they prefer to opt-out, and whether it’s clear that they can do that.



**Ultimately,
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Reviews

CONSUMER ELECTRONICS

Pebble Steel

LG 55EA9800

Nest Protect

Sony Cyber-shot DSC-RX10

HARDWARE

Lenovo ThinkPad X240

Origin Chronos

**Tiny Hardware Firewall
(Belisarius)**

SOFTWARE

Apple GarageBand 10

CyberLink PhotoDirector 5

**Pebble Steel**

\$249



The Pebble Smartwatch Finally Has the Metal



Without ever setting up shop at this year's CES, Pebble stole the show with its boardroom-ready refresh: the Pebble Steel. Since the original Pebble's launch, we've seen flashy new entrants like the Samsung Galaxy Gear and Sony Smartwatch 2—brimming with features, but ultimately flawed as full-time wrist mates. The first Pebble succeeded by finding a nexus of features and simplicity that helped manage the digital deluge of everyday life. But the inaugural effort was not without its flaws; it was particularly hampered by a chintzy plastic design that made it feel more tech-toy than versatile daily driver. The Pebble Steel addresses those complaints in a

big way by introducing a solid steel design, glass screen, and a much tighter build quality. Everything else, from the display to the processor, remains the same. The Steel may be a superficial update, but coupled with the new app store and growing selection of apps, the Pebble Steel shows just how far the former Kickstarter darling has come. It's unquestionably the top smartwatch out there right now.

DESIGN AND FEATURES

It turns out the Pebble cleans up quite nicely.

The Steel takes the smartwatch from Galaxy Blah to Apple-esque levels of refinement, with a solid steel case (in either brushed or matte finishes), Gorilla Glass screen, and metal and leather wristband options. Our review unit came with a brushed steel finish and a supple, black leather band—I'm not much of a watch guy, but this thing looks sharp.

The Steel is noticeably heavier than its predecessor (1.97 ounces with leather wristband versus 1.34 ounces), but it's physically smaller in every dimension (1.81 by 1.34 by 0.41 inches versus 2.05 by 1.42 by 0.45 inches). The 144-by-168-pixel e-paper display is identical, but the glass screen makes a big difference—clarity and contrast are noticeably better on the Steel. The metal case wraps around the screen, leaving a lip at the edges that already started accumulating some dust during the course of our evaluation. Below the display is a new RGB LED that glows when charging, but can also be used by developers.

Pebble Steel

PROS Elegant, high-end design. Easy to use. Customizable watch faces. Growing app store, feature set.

CONS Expensive.



STRIKE UP THE BAND

Metal and leather wristbands are available for the Pebble Steel, so the watch can match your own personal style.

All four buttons are now metal and the three on the right side are packed closer together. Whereas the original Pebble's buttons felt mushy and indistinct, the Steel's have good travel and feedback. The magnetic charging contacts on the left side have been redesigned with a more subtle, two-point design, but that means cables for the original Pebble will not work. The Steel carries the same 5ATM waterproof rating, meaning it can be submerged up to 165 feet and has been tested in both fresh and salt water, so you can shower or swim while wearing the watch.

PERFORMANCE AND APPS

When we first reviewed the Pebble, it was all about wireless notifications and fun watch faces. The software has since matured a great deal with the introduction of third-party apps, and with its revamped app store, Pebble is as much a software platform as it is a physical accessory. The firmware has been updated across all Pebble watches, and it feels a step faster and more responsive than the last time we used one. Notifications and menu navigation are instantaneous, though you'll still deal with a few loading screens and some wonky app interactions. Though the software is still technically in beta, I didn't notice any significant bugs or hiccups.

Our testing was limited to iOS (the Android version wasn't ready yet), but we took a look at the new Pebble app and app store. Fire up the app and you'll see a graphical dashboard that shows the apps and watch faces currently loaded onto your Pebble and the apps tied to your Pebble account. You can load up to eight apps or watch faces onto the Pebble Steel at one time; the rest are easily swappable from the app locker in the iOS app.



As of this writing, there are 246 apps and countless watch faces available for the Pebble. And it's not just a ragtag group of half-baked apps anymore: Pebble has scored some big name partnerships, such as apps from Yelp and ESPN. The Yelp app has a nifty "discovery mode," which pops up a nearby suggestion with a flick of the wrist. You can read snippets of reviews and find contact and location information, but it doesn't indicate what type of food a restaurant specializes in. This very well could be by design—Pebble apps aren't meant to replace their iOS or Android counterparts, but rather complement them with quick and easily accessible information. ESPN's app puts the latest matchups, scores, and even TV listings on your wrist. Some other notable names include Foursquare, GoPro, and Pandora.

The app store is a bit buggier than the iOS app itself, but again, this is all still in beta. It often took multiple touches before anything would register, and some apps wouldn't download to my locker without restarting the Pebble iOS app entirely. Navigation was painfully slow at times, too, but I expect these issues to be ironed out with time. There's a big carousel up top that highlights notable releases, with the remaining apps broken down into categories such as games or fitness. There are no reviews of individual apps, but you can "love" an app and see how many "loves" it's received.

Strangely, the app store isn't separated into Android or iOS versions—you have to click each app to see if it's compatible with your OS of choice and if you'll need a companion app or service for it to work.



DO YOU HAVE THE TIME (AND APP)?
Though the Pebble app situation has improved a lot, it's still not as good as what you'll find from Apple and Google.



CONCLUSIONS

The Pebble Steel is notable for what it is and what it is not. It's a complete redesign that tastefully marries high tech with high-end looks. It's not a me-too product that tries to pack in needless features just for the sake of features. Pebble runs on the strength of its simplicity and its growing ecosystem of apps—it's a winning strategy, and not unlike Apple's. With the Pebble Steel and the Pebble app store, the company now has a mature product to go along with a quickly maturing platform. Whether the style upgrades are worth the \$100 premium over the original is really just a matter of personal taste.

EUGENE KIM





LG's Superb-Looking OLED HDTV Doesn't Come Cheap



HDTV manufacturers have been experimenting with new technologies, trying to find the next big thing. Ultra HD (4K) televisions are the most notable because they represent a jump in resolution over 1080p, but they're also fairly useless until we get media in that format. Organic LED (OLED) screens have shown promise for years, but haven't really clicked yet. Curved displays are a new trend, and their usefulness is uncertain. LG played mix-and-match with these technologies with the 55EA9800, a 55-inch 1080p curved OLED screen that produces the

LG 55EA9800

\$7,999.99



best picture we've ever seen. It crushes high-end plasma screens as far as black levels and offers a wider color spectrum than any other HDTV we've measured. But if you want all that superb performance, you'll have to pay a steep price.

DESIGN AND FEATURES

LG calls the 55EA9800 "pencil-thin," but every pencil I've compared against the screen has been significantly thicker than the just-over-0.2-inch-deep panel—and at 37.9 pounds, this is easily the lightest 55-inch HDTV I've encountered. It's completely bezel-free, with only a thin metal band running around the top and side and a thin black frame of 0.3 inch around the picture. The screen comes in a single piece with a built-in curved, clear plastic stand that holds it upright and contains a pair of clear speakers. You have to be careful when removing the HDTV from the box and setting it up, though: The HDTV doesn't wobble, but the panel flexes slightly if not held correctly.

The illusion is lost a bit when you look around the HDTV and see the electronics that drive it in a large black plastic lump mounted on the back. The left side of the screen holds four HDMI ports, two USB 2.0 ports, and a USB 3.0 port. The combination composite/component video inputs, optical audio output, antenna/cable connector, and Ethernet port sit in a recessed space on the back, facing down.

As LG's top-of-the-line HDTV, the 55EA9800 is laden with features. It comes with two pairs of stylish passive 3D glasses with hard carrying cases and another two pairs of clip-on 3D shades for users who already wear glasses. It also includes a separate USB webcam you can plug in for video chat. Built-in Wi-Fi (or an optional wired Ethernet connection) lets the HDTV access tons of online services and apps. The LG content hub also offers access to dedicated 3D video online, plus a Web browser. And the 55EA9800 uses LG's Magic Remote, a

LG 55EA9800

PROS Pure dark blacks. Vivid color. Eye-catching. Immersive 3D.

CONS Expensive. Can't be wall-mounted. Some 3D crosstalk when viewed from higher angles. Colors slightly oversaturated out of the box.





motion-sensing wand (with only a few buttons) you use to control an on-screen cursor to navigate the HDTV's menus and features.

PERFORMANCE

We tested the 55EA9800 with basic dark room calibration, manually adjusting the brightness and contrast levels and setting color temperature to the warmest setting. The screen's built-in Picture Wizard II feature can walk you through simple calibration, but we found the resulting settings didn't turn out the superlative test results we achieved under our calibrations.

Even if the panel doesn't get super-bright (99.014 candelas per square meter), its incredible black levels more than make up for it. If the 55EA9800 puts out any light when displaying black, it's so little that our equipment can't measure it. That's a first for us, and puts the 55EA9800 up against the highest-end plasma HDTVs on the market like the Samsung PN8500 and the Panasonic ZT60 series.

Color is less perfect out of the box, but even inaccurate results were genuinely impressive. Reds and greens were consistently oversaturated but stayed generally in line with the ideal tint and hue values, keeping the colors generally accurate. These saturation levels show that the 55EA9800 can reach a wider color space than any other HDTV we've tested. That's remarkable, but not ideal for watching movies. Setting the color space to Standard reduced the oversaturation, but the color levels still went beyond normal values. This HDTV would benefit from a professional color calibration, though you can always turn the Color (saturation) setting slightly below the defaults, as well.

These excellent test results translate into the best picture I've seen on an HDTV. I watched *Black Swan* on Blu-ray, and the anamorphic letterboxing

vanished against the frame in a dark room, displaying perfect black above and below the picture. The extreme contrasts came through with detail on both ends of the spectrum, showing remarkable detail on the black fabrics of the costumes in a variety of lighting conditions. *Jason and the Argonauts* on Blu-ray looked similarly impressive, but its bright 1960s-era Eastmancolor film colorization made the oversaturation issues of the Wide color space mode very apparent. Although Wide might sound more appealing, the Standard or BT709 color space modes reduce the oversaturation significantly. Otherwise, details were incredibly sharp, with no hint of highlight texture or edge swallowed by the bright picture of the film.



PASSIVE, BUT NOT PERFECT

Two pairs of passive 3D glasses come with the 55EA9800 and help deliver good 3D image quality—just don't expect visual miracles.

CURVED DISPLAY AND 3D

The curve of the screen is one of the biggest features of the 55EA9800. It improves off-angle viewing and lets users see the 2D picture with equal contrast and color accuracy whether they're directly in front of the screen or viewing it from the side—but the same can be said of a flat IPS panel. Any benefit of the curved display is eclipsed by the benefit of the OLED technology that gives the HDTV such remarkable contrast and color. For now, I can't say that a curved display is effectively worth more than the bragging rights of cutting-edge technology it represents, but an OLED display clearly offers plenty of potential benefits to cinephiles.

The 3D picture also looks impressive, but even the curve of the screen can't fix a common problem with passive 3D. I watched *IMAX Under the Sea 3D* on Blu-ray from different angles, and sitting in front of the screen was like looking through a clean glass-bottom boat into the water. But crosstalk started to



appear when viewed from the extreme sides, and it got more extreme, producing a distinct ghost image, when I viewed the screen from a position higher than where the 55EA9800 sat. Your HDTV should ideally be positioned at eye level or slightly higher, but the 55EA9800's lack of wall mounting hardware can make that potentially awkward.

If you were hoping OLED screens would usher in a new age of energy efficiency for HDTVs, you're going to be disappointed by the 55EA9800. With energy saving features turned off, the screen consumes an average of 210 watts. That number shrinks to 162 watts in Minimum energy saving mode and 122 watts in Medium energy saving mode, which are much more reasonable and barely darken the screen at all (compared with the Maximum energy saving mode, which made the screen uncomfortably dim).

IS IT WORTH IT?

I can't speak to whether curved displays are worth the sizable premium they command, but I can say with certainty that OLED screens represent the future of high-end HDTVs. The LG 55EA9800 is a technological marvel and the finest display I've ever tested. If you can't quite justify an \$8,000 investment, consider less-expensive high-end flat panels like the Samsung PNF8500 plasma. It doesn't offer the perfect blacks of the 55EA9800, but it costs a third of the price and is one of the best screens you can pick up for less than a car. But if you are able to drop nearly five digits on an HDTV, you won't be disappointed by the 55EA9800.

WILL GREENWALD

“
**The LG
55EA9800 is a
technological
marvel and
the finest
display I've
ever tested.**
”



Safeguard Your Home With This Smart Smoke Detector



Nest's Protect follows in the footsteps of its groundbreaking Learning Thermostat. The Protect uses lights and audible alerts to warn you of dangerous smoke and carbon monoxide levels, and features an early warning system, a motion detector for easily silencing the alarm, a self-check mechanism, and iOS, Android, and Web browser support. Like the Learning Thermostat, the Protect is artfully designed and connects to your home's Wi-Fi, letting you keep a virtual eye on things while you're away. Despite its hefty price and being the first product of its kind, it's such a good performer that it's still deserving of our Editors' Choice award.

Nest Protect

\$129



FEATURES AND DESIGN

Available in white or black, the Protect eschews the round white casing typical of most home smoke detectors. Instead, it uses a square 5.28-by-5.28-inch housing that is 1.63 inches thick and weighs 13.1 ounces. Behind the stylish mesh cover are eight sensors, for gauging heat, smoke, carbon monoxide (CO), motion, ambient light, humidity, and more. There's also a smoke chamber, six AA batteries (which come preinstalled), a speaker, an alarm horn, a Wi-Fi radio, and a wireless interconnect radio that lets multiple installed Protect units communicate with each other. (We reviewed the battery-operated Protect, but a hard-wired version is also available.) Also included are a mounting plate, four screws, a user guide, and a welcome guide.

Nest Protect

PROS Minimalist design. Intuitive light ring. Loud alarms. Remote monitoring.

CONS Expensive. No text-message, email alerts.



In the center of the alarm is a 2.25-inch round “Nest” button surrounded by a light ring that glows different colors to display the unit’s current status: blue during setup and tests, yellow when giving a Head’s Up (early warning), and red when there’s a smoke or CO emergency. Otherwise it remains unlit. When you turn out the lights at night the ring briefly glows green to let

THE ONE RING

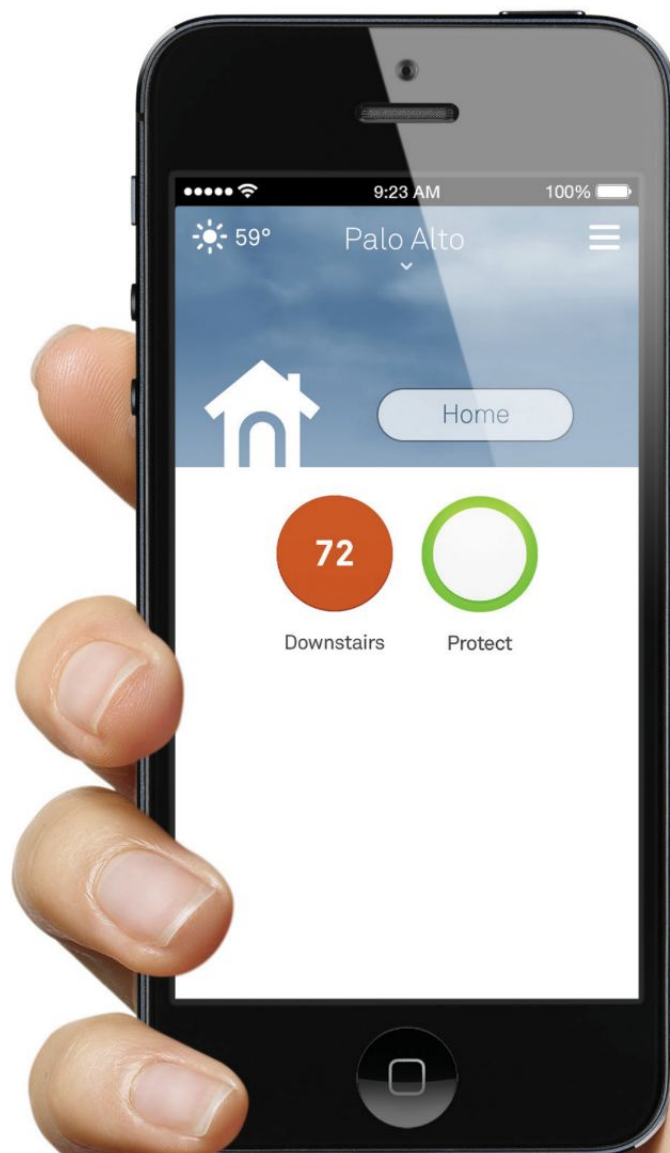
The light ring in the center of the Nest Protect changes color so you can tell at a glance what the detector’s status is.

you know that everything is working correctly; walk under the Protect when the lights are out and the light ring glows soft white to guide your way.

If you've ever had to get up on a chair so you could reach your smoke alarm's quiet button you'll appreciate the Nest Wave feature, which lets you stand under the device and wave your hand at it four or five times to silence it. (Nest engineers wanted to make sure that it wasn't possible to silence the alarm accidentally.)

In addition to visual lighting effects the Protect uses a loud beeping alarm and a female voice to broadcast alerts. The voice will tell you when there's a potential for dangerous smoke or CO levels and when there's an actual emergency. If there's a Head's Up alarm, the voice will tell you where the smoke or CO is, and that the alarm may sound. If it's an emergency alert the light will pulse red, the siren will start beeping, and the voice will sound continuously. When one alarm gives an alert, every Protect alarm you have installed in your house will chime in, with each identifying the room that triggered the event. False and emergency alarms alike can be hushed with a wave or button press unless a critical level of smoke is detected.

The mobile app is basic, but well designed and user friendly. The main page shows each alarm and its status. If all is well you'll see a green circle, if there's a Head's Up warning it'll be yellow, and if there's an emergency it'll be red and you'll receive a message with



tips on how to proceed (such as warnings to get out immediately, feel the door before opening it, alert all children, and call 911). Clicking on an alarm shows you when it was last updated and manually tested, and if the batteries are good. The settings menu lets you change the name and location of each alarm and enable or disable features. When an alarm is triggered a message is sent to your app mailbox stating which alarm went off and the event level.

As is the case with most smoke/CO detectors the Protect has a life expectancy of seven years. Two weeks prior to the expiration date (which is printed on the back of the device), the alarm will warn you that it has expired and needs to be replaced. It will also warn you when the batteries are running low.

INSTALLATION AND PERFORMANCE

As with just about every smoke/CO detector, the Protect is a snap to install. First, you need the app (it also controls the Learning Thermostat), which is available for iOS or Android, or over the Web, and to create a Nest account. You add the Protect to the software, enter the six-character entry key on the back of the device, pull out the paper tab that's installed for shipping purposes, and press the Nest button. Then you choose a language (English or Spanish), link the Protect to your Wi-Fi network, name the device, and it's ready to mount.

There's no safe way to test a CO detector in the home, so I'll have to take the Underwriters Labs at their word for their claims that the Protect complies with the UL



DO THE WAVE

The Nest Protect can be silenced by waving your hand several times beneath it, so you'll never turn it off accidentally.



2034 standard for Single and Multi Station Carbon Monoxide alarms. But Nest sent along a SmokeSaber Smoke Detector Tester, which as the name implies, lets you test the smoke alarm using fake (invisible) smoke. When I used it, the Protect's light glowed red and its siren and voice alerts sounded until the fake smoke dissipated; the alarm then silenced itself before I could do so manually. I received the proper alert messages in the app, too. The only thing missing here are email and text-message alerts, which would add another layer of event reporting for when you're away from home. Right now you have to open the app to receive messages.

CONCLUSIONS

The Nest Protect takes smoke and carbon monoxide detection to a whole new level. It doesn't just alert you to dangerous smoke and CO levels with a series of piercing beeps, it warns you of developing situations so you can take action before things get out of hand. Color-coded lights, articulate voice alerts, and the Nest Wave all make the Nest Protect a top choice. Sure, there are plenty of good smoke/CO detectors out there for a fraction of the cost, but none of them offer all of the safety and monitoring features that you get with the Nest Protect.

JOHN R. DELANEY

“
**The Nest
Protect
takes smoke
and carbon
monoxide
detection to
a whole
new level.**
”



Take Fantastic Photos With Sony's Fixed-Lens Camera



The Sony Cyber-shot DSC-RX10 would not typically excite me. This is a fixed-lens camera with a comparatively modest 1-inch sensor, but it uses the same 20-megapixel image sensor as the RX100 II, our favorite premium compact, and its 24-200mm lens maintains an f/2.8 aperture throughout its zoom range. Image quality is phenomenal, and the focus system quick. It doesn't quite have the telephoto reach of previous Editors' Choice award winners in this category, including the Olympus Stylus 1 (28-300mm) and the Panasonic Lumix DMC-FZ200 (25-600mm), but the RX10's versatility deeply impresses us nonetheless.

**Sony Cyber-shot
DSC-RX10**

\$1,299.99



DESIGN AND FEATURES

Even though the RX10 is a bit bulky at 3.5 by 5.1 by 4.1 inches (HWD) and heavy at 1.8 pounds, it's not that far off in size from the FZ200 (3.4 by 4.9 by 4.3 inches, 1.2 pounds), which features a more standard 1/2.3-inch image sensor and a 25-600mm f/2.8 lens. Sony sacrificed some telephoto reach in favor of a larger, higher-resolution image sensor; you can make up for some of that lost reach by cropping the 20-megapixel image. If you shoot JPEGs, Sony's Clear Image Zoom is available to extend the reach of the lens to 400mm via in-camera cropping.

For its class, the 24-200mm lens has a modest 8.3x zoom ratio. But the fixed f/2.8 aperture, large image sensor, and excellent minimum focus distance (3cm at its widest angle and 30cm when zoomed all the way in) combine to make a shallow depth of field possible in many shots. There's no need to switch to a dedicated macro focus mode to lock on at close distances, and the camera's focus speed doesn't suffer from a lack of a dedicated macro range. The camera's in-lens leaf shutter makes flash sync possible even at the shortest 1/3,200-second setting. You'll be limited to shooting at f/8 at that speed, however; the fastest the camera can shoot at f/2.8 is 1/1,600 second. If you're shooting at wider than 70mm the lens hood casts a shadow when using the pop-up flash; you can remove it if you'd like to use the flash at wider angles than that.

There's a big control ring around the lens (when the camera is set to autofocus it adjusts zoom, but becomes a focus control in manual focus mode), and behind it is an aperture ring

Sony Cyber-shot DSC-RX10

PROS Sharp 24-200mm f/2.8 lens. Big 1-inch image sensor. 10fps burst shooting. Speedy focus. 1080p60 video capture. Excellent customizable control layout. Sharp EVF. Tilting rear LCD. Multi Interface hot shoe. Integrated Wi-Fi with NFC.

CONS Bulky. Expensive. External battery charger not included.



that offers third-stop clicks from f/2.8 down to f/16. The zoom ring can be set to a step zoom mode, which adjusts the lens to classic focal lengths, or as standard control that lets you set the lens to intermediary lengths; even when step zoom is enabled, the zoom rocker switch can be used for fine adjustments.

A switch on the bottom of the barrel changes the control to clickless operation, which is ideal for recording video. The switch to toggle the focus mode is on the front of the camera. Single (which locks focus once it's acquired) and continuous (which adjusts focus until the moment of capture) are familiar to SLR shooters, but the unique Direct Manual Focus (DMF) mode lets you adjust the focus manually once the autofocus system has locked onto a target. Focus peaking and frame magnification are available as focus aids in DMF or MF mode.

The thick body leaves a lot of room for controls on the top plate. There's a mode dial on the left, and a hot shoe and pop-up flash in the middle. On the far right there's the standard zoom rocker, power switch, and shutter control, all packed into one tight space, a C (for customizable) button, and an EV compensation dial that goes from -3 to +3 EV in third-stop increments. There's also a backlit monochrome information LCD on the top.

Rear controls include the standard Menu button, a record button for quick video capture, and a control dial. To the right of the 3-inch hinged rear LCD display (with a sharp 1,228k-dot resolution) are the auto-exposure lock control, an Fn button for setting configurable shooting options, a



Direct Manual Focus (DMF) mode lets you adjust the focus manually once the autofocus system has locked onto a target.



control wheel, and the standard playback buttons. Most buttons can be reconfigured to suit your needs via the menu system. The eye-level EVF is an OLED design, and its 1,440k-dot resolution is one of the best you'll find in this class of camera.

Wi-Fi is built in. The RX10 works with the free Sony PlayMemories Mobile app to quickly transfer images and video from the camera to your phone or tablet. (It's also possible to send images and video directly to a PC over Wi-Fi, or view images wirelessly on a compatible TV.) Limited remote control via your handheld device is also supported via PlayMemories. A Live View feed streams to its screen, and you can adjust the focal length of the lens, set the self-timer, adjust the flash output, and fire the shutter.

PERFORMANCE AND CONCLUSIONS

The RX10 starts and shoots in 1.7 seconds—not as fast as an SLR, but good considering that its power zoom lens must extend before capturing a photo. The shutter lag is close to zero at the wide angle, and focus locks in less than half a second at the 200mm setting. There's a Speed Priority mode in which it can rattle off 22 JPEG images at 10 frames per second (fps) before slowing; in Raw or Raw+JPEG mode, you're limited to a nine-photo burst at 6.3fps.

I used Imatest to see just how well the Zeiss Vario-Sonnar T* 24-200mm f/2.8 lens performs when shooting a standard SFRPlus test chart. At 24mm f/2.8 it displayed 2,691 lines per picture height at the center and 2,000 lines at the edges—well above the 1,800 lines we require for a sharp image. Stopping down to f/4



CAMERA CONTROL CENTER

The RX10's body is large enough to leave lots of room for controls on both sides of the top plate.



offers marginally sharper edges, and at f/5.6 there's a slight drop, but even at f/8 the RX10 manages 2,400 lines. Distortion is a nonissue for shooting JPEG or working with Raw images in Lightroom, but if you opt for Raw conversion software that doesn't respect Sony's in-camera distortion adjustments, you'll see 10.2 percent barrel distortion. The camera remains incredibly sharp and 50mm, 100mm, and at 200mm at both f/2.8 and f/4. I saw no evidence of chromatic aberration when shooting with the RX10, even in high-contrast scenes.

Imatest also checks photos for noise, which often curbs image quality at the higher ISO settings associated with capturing images in dim light. The camera can be set as low as ISO 50 and as high as ISO 12800. Using the standard noise reduction setting, the RX10 keeps JPEG noise under control through that top ISO, but there is noticeable loss of detail. If you're shooting in JPEG with standard noise reduction, image quality holds up well through ISO 3200; in Raw, the results at ISO 6400 are highly detailed, if a bit grainy. Try to avoid ISO 12800, but if you have to go that high, shooting in Raw mode is your best option as the JPEG output is a smudgy mess at default noise reduction settings.

The RX10 records AVCHD video in up to 1080p60 quality, at bitrates ranging from 17Mbps to 28Mbps. You can also record in MP4 format, but the quality is limited to 1080p30 at 12Mbps or 480p30 at 3Mbps. Overall, motion in video is smooth, colors are accurate, the footage is crisp, and you have the same focus speed and depth of field control that available as you do when capturing still images. The optical stabilization system does a terrific job keeping footage steady, even when zoomed all the way to 200mm. There's a built-in stereo mic, and the sound of the lens zooming is relatively quiet. You'll have the option of outputting to an HDTV via micro HDMI to review footage, and you'll find a mic



SCREEN SIREN

The incredibly sharp 3-inch hinged LCD display on the RX10 is one of many features that distinguishes this top-rated camera from its competition.

input, headphone jack, and level controls. If you're really serious about turning the RX10 into a video camera, you can add balanced XLR input via the Multi Interface hot shoe, but that's a pricey addition at \$799.99.

There's a micro USB port to connect to a PC; it doubles as a power input port for the included AC adapter; no external battery charger is included with the RX10. It uses the same battery as Sony's mirrorless camera lineup, so if you already have one of those you can share batteries and the charger, but if not an extra battery is priced at \$40 and a dedicated wall charger is \$50. The RX10 supports Sony's Memory Stick PRO Duo memory in addition to more common SD, SDHC, and SDXC cards.

The Sony Cyber-shot DSC-RX10 won't replace an SLR for pro shooters. But it's fine for when you don't want to drag around a bigger camera, and for the many casual shooters who buy SLRs for image quality but never move beyond kit lenses. The 24-200mm zoom range covers most subject matter with ease, its close focus capability is impressive, its lens is tack sharp, the focus system snappy, and image quality holds up as long as you don't push its ISO sensitivity to its extreme limits. The RX10 is a strong performer without any real weaknesses; if it's in your budget, it's the bridge-style camera to get.

JIM FISHER

**Lenovo ThinkPad
X240**

\$1,495



A Powerful, Feature-Rich Business Ultrabook



Lenovo ThinkPad laptops have long been a favorite of business users on the go, and for good reason. They have a long history of durability and solid performance, and their keyboards are arguably the best on the planet. The new Lenovo ThinkPad X240 has the distinction of being the thinnest and lightest X-series laptop to date, but it is still MIL-SPEC tough and offers solid Core i5 computing power as well as Lenovo's new Power Bridge battery technology, which gave us over 15 hours of battery life. Like most ThinkPads, the X240 isn't exactly cheap, and its screen is relatively low-res, but this well-built ultrabook rocks just the same.

DESIGN AND FEATURES

Longtime fans of the ThinkPad will be happy to know that the X240 doesn't stray too far from the iconic design, although it does offer a few new touches. The lid is made of carbon fiber and has a new Graphite Black finish, which is a bit smoother than the typical ThinkPad finish. It also uses a drop-down hinge design that allows the screen to be extended to a 180-degree tilt range. As always, ThinkPad and Lenovo badges adorn the lid. The X240 has a built-in, non-removable three-cell battery and comes with removable three- and six-cell batteries, both of which are hot-swappable thanks to Power Bridge.

Weighing 3.2 pounds and measuring 12.02 by 8.19 by 0.79 inches (HWD), the X240 is a tad heavier than the Samsung Ativ Book 9 Plus (3.06 pounds) but still plenty portable enough for long hauls. Even if you use the six-cell battery you're only looking at around 3.6 pounds. The left side of the magnesium-alloy chassis holds VGA and Mini DisplayPort video outputs, a power jack, and a black USB 3.0 port. The right side is home to a second USB 3.0 port, a LAN jack, a four-in-one SD card reader, and an audio output. At the bottom of the base are a docking station port and a pair of speakers.

Beneath the lid is a 12.5-inch IPS touch-screen display that delivers vibrant colors, deep blacks, and wide viewing angles. Its 1,366-by-768 resolution pales in comparison to the 3,200 by 1,800 you get with the Samsung Book 9, however. That said, the touch screen worked flawlessly, and the display's über-thin bezels made for easy Windows 8 swiping from either side.

The island-style keyboard is

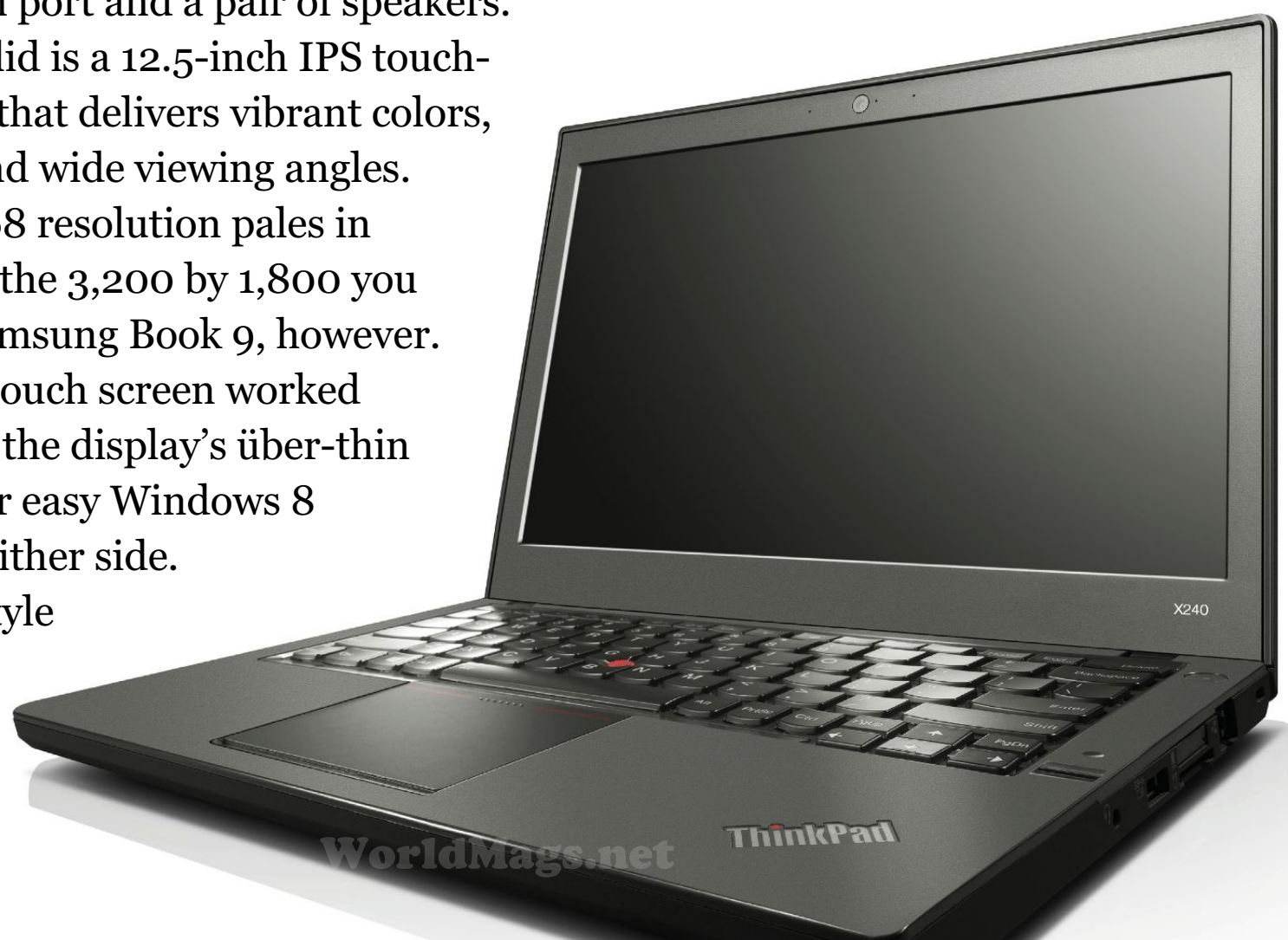
Lenovo ThinkPad X240

PROS Solid performance. Incredible battery life. Responsive touch screen. Sturdy design.

CONS Low-resolution display. Pricey.

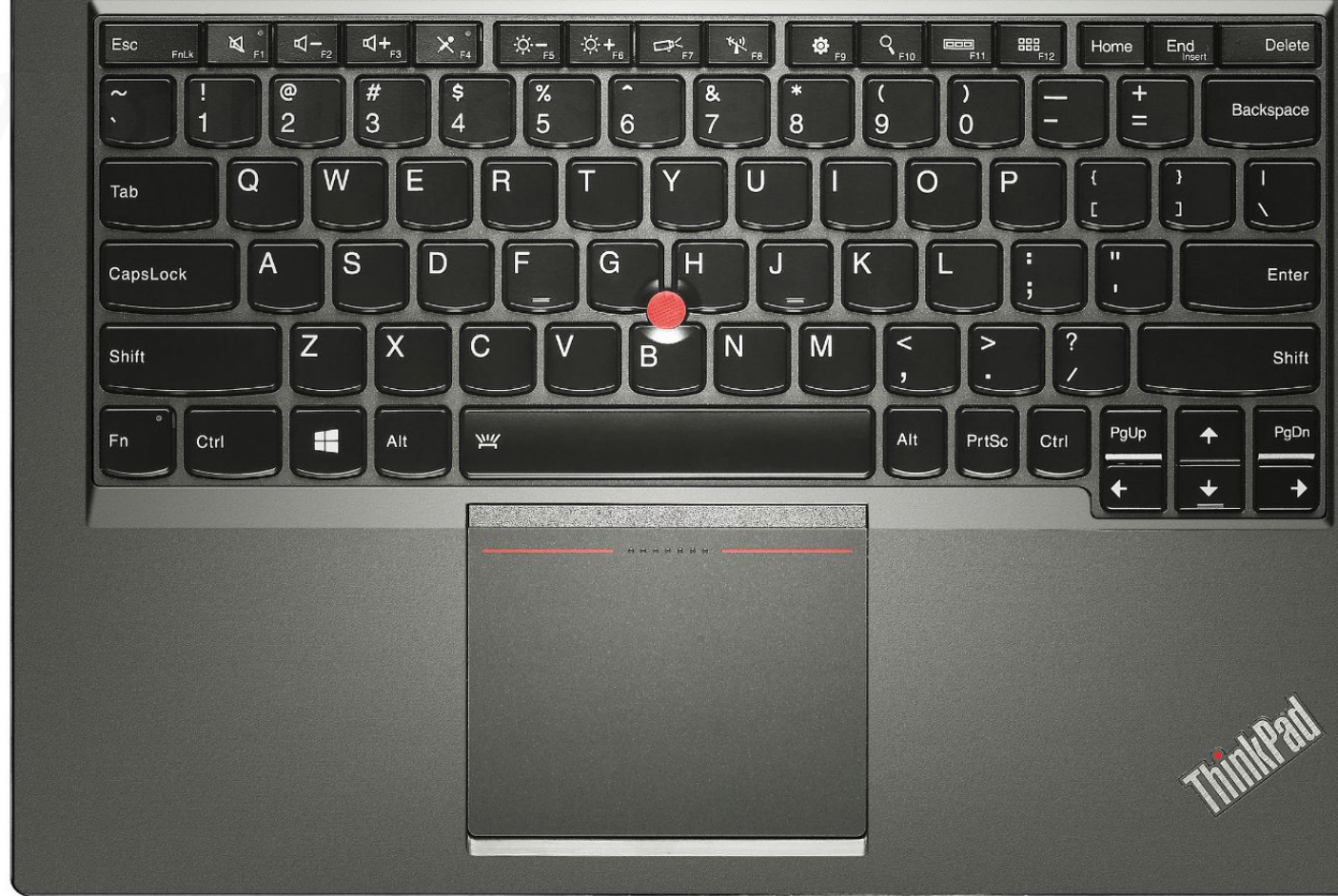
MOST OF THE SCREEN YOU NEED

The ThinkPad X240 has a vibrant touch-screen display, but don't expect the high resolution you'll find on some laptops.



INPUT OPTIONS

The X240's terrific keyboard is comfortable to use; and a touchpad and a TrackPoint pointing stick let you use whichever style of mouse functionality you prefer.



a typical ThinkPad keyboard—in other words, it's awesome. The backlit keys are full-size and well spaced, and the keyboard is spill-resistant. Typing is comfortable, and keystrokes are responsive. The newly designed glass touchpad offers twice the work area of previous versions, contains five integrated click buttons, and supports 20 Windows 8 gesture commands. It takes a little getting used to the extra surface area, but once you do it's hard to imagine how you ever got along with a smaller touchpad. As always, a red TrackPoint pointing stick is nestled between the G, H, and B keys, and there's a fingerprint reader off to the right side of the keyboard.

Rounding out the feature set are Wi-Fi and Bluetooth radios, a webcam and microphone array, and a 256GB solid-state drive with Windows 8 Pro. There are also a handful of Lenovo apps, including Lenovo Cloud Storage and Companion apps, trial versions of Microsoft Office and Norton Studio, Skype, and Evernote Touch.

PERFORMANCE

Fueled by a 1.6GHz fourth-generation Intel Core i5-4200U processor and 8GB of RAM, the X240 turned in respectable scores on our performance benchmark tests. Its PCMark 7 score of 4,717 beat the 4,507 score of its cousin, the Lenovo ThinkPad Helix, and the 4,498 scored by the Dell Latitude 6430u (HD+), but it couldn't top the Dell Latitude 6430u (5,006). Its CineBench R11.5 score of 2.49 was right up there with those of the Samsung Book 9 Plus (2.50) and the Lenovo IdeaPad Yoga 2 Pro (2.49) but short of the Dell 6430u (HD+)’s 3.12.

The X240 handled our multimedia tests with aplomb, finishing the Photoshop



Solid performance and a durable design make this ultrabook an ideal travel companion.



workload in 5 minutes 54 seconds and the Handbrake video encoding test in 1:25. These scores are pretty much on par with the Samsung Book 9 Plus (5:51 and 1:23, respectively), which uses the same Core i5 processor.

The Intel Graphics HD 4400 chip performed as expected; the X240's 3DMark 11 scores of 1,445 (Entry) and 209 (Extreme) were a bit higher than those of the Sony Vaio Pro 13 scores (1,297 and 208, respectively) but slightly lower than the Dell Latitude e7240 Touch (1,600 and 259, respectively). You also won't get playable frames rates from this GPU, but the X240 is not designed for gaming.

Using the capacity of two three-cell batteries (one of which is removable) the X240 held its own on our battery rundown test, lasting almost six hours (5 hours 54 seconds). The Dell 6430u (HD+) lasted 5:10 and the Dell e7240 Touch lasted 7:21. Replacing the three-cell battery with the slightly bulkier six-cell battery resulted in a record-setting battery life of 15:16, the equivalent of two full work days.

Whether you're a long-time ThinkPad enthusiast or a newbie, the X240 is an excellent example of why the brand has been so successful for so many years. Solid performance and a durable design make this ultrabook an ideal travel companion, and its incredible battery life is hard to beat. A higher-resolution screen would be nice, but considering this is a business-class laptop that's not really a deal breaker and doesn't prevent the X240 from becoming our newest Editors' Choice for business ultrabooks.

JOHN R. DELANEY



Big Gaming Performance in a Compact Desktop PC



The Origin Chronos is a high-end, compact gaming rig that's cheaper than gaming desktops that cost \$5,000 or more, yet matches and even surpasses those systems in performance. It's capable of running just about any PC game you throw at it, and then asking for seconds. Although it's not really expandable, the sheer amount of capability that Origin PC put into the Chronos means that you're going to be looking at a new PC before you feel the need to add components to this one. It's the top-tier gaming rig to beat right now.

Origin Chronos

\$4,899



DESIGN AND FEATURES

The Chronos is built into a customized white version of the Bitfenix Phenom chassis, with plenty of cooling fans and piping for the liquid-cooled processor. It's similar in style to the ones we've seen on the V3 Gaming Traverse and AVADirect Mini Gaming PC Core i5 Z77, but with some significant differences, including the side on which the power button and USB ports are located, and the fact that the Chronos doesn't have space for an optical drive.

The chassis has a pair of cooling fans pumping air out of the top, as well as a large cooling fan in the back that exhausts warm air from the liquid cooling system. The two graphics cards also spit out a copious amount of heat while running games and 3D benchmark tests. We measured about 89° F at rest, but 163° while the system was running the strenuous Heaven benchmark test with all the details turned up.

The fans and the installed eVGA monitoring software certainly kept up with cooling the high-powered GPUs:

Origin Chronos

PROS Excellent gaming performance. Eight USB 3.0 ports. No bloatware. Includes Origin-branded Razer keyboard, mouse. Lots of storage.

CONS No internal expansion room. Back gets warm during gaming sessions.





The fans make themselves heard while the system is chewing on 3D tasks, but quickly calm down again when they're no longer needed. At idle or when performing non-strenuous tasks such as email and IM, the desktop was quieter than a thermoelectric desk fridge.

The Chronos is built around an Asus Maximus VI Gene microATX motherboard with Republic of Gamers branding. It comes with an Intel Core i7-4770K processor (four cores, eight threads) overclocked from 3.5 to 4.7GHz, 16GB of DDR3 memory, a 1TB SSD boot drive, and a 1TB 7,200rpm traditional spinning hard drive. The 3D graphics are handled by a pair of 6GB Nvidia

GeForce GTX 780 Ti cards in an SLI configuration. The whole shebang is powered by a Corsair 850-watt power supply.

Because the system is so compact, and because the GeForce GTX 780 Ti cards are double-wide, there is no internal expansion room. You can, however, expand the memory with another 16GB of RAM via two free and accessible DIMM slots. The internal wiring is neat, and airflow is fine. When you initially open the case, you'll be hard-pressed to find the 1TB SSD, but it's actually bolted to the side of the other case lid. Origin is very efficient in its use of this compact chassis.

The Chronos comes simply configured, with only Windows 8.1 and the requisite driver and utility software for the graphics cards and motherboard; there's no bloatware, which is a good thing. It comes with a three-year warranty, including parts replacement and shipping back to Origin PC for service.

PERFORMANCE

You spend close to \$5,000 for a gaming PC for the performance, and the Chronos certainly doesn't disappoint. Thanks to the high-powered processor, graphic cards, and SSD boot drive, the desktop managed to give us one of the highest scores we've seen on our everyday-usage PCMark 7 test: 7,936. To put this into perspective, our last high-end gaming PC Editors' Choice, the GTX 780



SLI-armed Falcon Northwest Fragbox, was the last highest with 7,322. The full-size Origin Genesis, with a Core i7-3970X CPU, could only get 6,584, and the AMD FX-9590-powered Maingear Shift lagged behind at 5,192. To be sure, all these PCMark 7 scores are way ahead of more pedestrian consumer systems, which average around 2,500 to 4,000. Multimedia scores are as quick as you'd expect. The Chronos is certainly capable of performing as a high-end multimedia PC when it's not at play.

During those times, the Chronos is a real workhorse, turning out three-digit frame rates at our toughest game tests. On high-quality settings, it scored 209 frames per second (fps) on *Aliens vs. Predator* (AvP) and 182fps at *Heaven*. These are slightly behind the scores of the former Editors' Choice Falcon Northwest Mach V under the same quality settings (222fps in *Alien vs. Predator*, 198fps in *Heaven*), but the Mach V used three expensive Nvidia GeForce Titan cards and cost significantly more. The Falcon Northwest Fragbox (129fps in AvP, 132fps in *Heaven*) and the Maingear Shift (128fps in AvP, 84fps in *Heaven*) fell even further behind. That said, frame rates like these are more about bragging rights, as all four systems will play 3D AAA titles smoothly with all the eye candy turned on.

The Origin Chronos is a compact gaming rig that is fast enough to wipe the smiles off the folks in the smug (rich) gaming circle you may compete against. It's priced \$2,500 less than the Falcon Northwest Mach V, yet it performs virtually the same or better on the benchmark tests. And it's faster across the board than the Falcon Northwest Fragbox, the Editors' Choice for small-form-factor, high-end gaming desktops. This is why Origin Chronos replaces it as our new Editors' Choice for that category.

JOEL SANTO DOMINGO

WorldMags.net



**Tiny Hardware
Firewall
(Belisarius)**

\$65



Protect Your Computer Anywhere You Use It



A pocket-sized network router, Tiny Hardware Firewall (THF) provides firewall protection and secure Virtual Private Network (VPN) connectivity wherever you go. The model I reviewed is worth every penny for its ease of use and security. THF makes it easy to be secure online even if you aren't a networking expert, and should be part of everyone's security arsenal.

WHAT'S INSIDE

THF comes in four sizes, named after four famous military generals. Napoleon (\$55) is the smallest and cheapest, followed by Belisarius (\$65), Subutai (\$75), and Alexander (\$90). All models use the same hardware; the differences are only in the size of the unit and battery capacity. Napoleon and Subutai use regular batteries and are not rechargeable.

The Belisarius THF, which I tested, is a TP-Link TL-MR10U portable router, using the Atheros AR7240 chipset and Atheros AR9331 Wi-Fi radio. The 802.11n Wi-Fi router operates in dual radio mode. There is one Ethernet port and one USB port on one end, a power port on the other, and a power switch on the side. The Belisarius measures 1 by 1.6 by 3.6 inches (HWD) and weighs a mere 3 ounces. (Even the largest unit, Alexander, weighs less than 6 ounces.) Belisarius ships with a USB power cable and an Ethernet cable. To connect the Belisarius to a power outlet, you will need to supply your own AC wall adapter.

The TL-MR10U can be flashed with a custom firmware, so THF uses OpenWRT, a Linux distribution popularly used in embedded devices such as routers. THF takes advantage of OpenWRT's built-in firewall capabilities, and you can add the 256-bit version of HotSpotVPN service for an additional \$91.25 at checkout, or you can use THF without the VPN, as a standalone firewall. (Most VPN services cost about \$50 for an annual subscription.) Norton Hotspot Privacy (\$49.99), our Editors' Choice of paid VPN services, protects up to five devices for half the price, but HotSpotVPN's 256-bit protection, malware scanning, and ad blocking make it worth considering.

WiFiConsulting said the rechargeable 2,600mAh battery inside the Belisarius has a 10-hour battery life, and that was borne out in our tests. That's enough time for most situations where you would be on the network but away from a power outlet. In a pinch, you can also use the THF's battery to charge up other USB devices, such as your phone.

HOW IT WORKS

Instead of connecting directly to wireless networks, you connect to THF and it connects to the public network. Everything you do first passes through THF. If you are trying to access a website, THF lets the traffic through.

Tiny Hardware Firewall (Belisarius)

PROS Reasonably priced. Excellent documentation. Easy to use. Decent battery life. Protects up to four devices. Firewall works even without VPN.

CONS VPN service is expensive. No customizable firewall settings. Not always obvious when it's on.



If a site sends a request you didn't make, THF knows it's unsolicited and drops the package.

There are three modes of operation: client, access point, and wireless-only. The client mode is the default, and I think it's more than enough for most users. The client mode is easy, but can be a little cluttered, as you're using both the Ethernet cable and USB cable (if your THF is charged up, you can just use the battery and free up the USB port), but if that doesn't bother you, it's the easiest way to be up and running securely.

If you're using a device that doesn't have an Ethernet port, such as a tablet or smartphone, you can switch the THF into either access point or wireless mode and connect over the Wi-Fi network. When you switch to those modes, THF provides a randomly generated SSID and password you use to connect.

In access point mode, THF connects to the network via Ethernet and acts as a private access point for up to four Wi-Fi devices within 100 feet. This is handy in a hotel room that offers wired Internet but not wireless, for example. In wireless mode, THF connects to both the network and the device over the wireless. You don't even have to take the THF out of your bag. Point your laptop to the THF's special SSID and you're set to go.

MANAGEMENT INTERFACE AND COMPLAINTS

THF comes packaged with a worksheet listing its username, password, and IP address; just enter that address into the location bar on your Web browser to enter the bare-bones management interface.

In the interface you click on separate buttons to select and connect to a wireless network (and enter the password if necessary), turn on the VPN, disconnect from the wireless, and change the firewall password. There is nothing to fiddle



You don't even have to take the THF out of your bag. Point your laptop to the THF's special SSID and you're set to go.



with—if you want to be able to tweak your firewall or create custom rules, you're out of luck.

I was a little surprised that, though the thorough manual recommended I change my password from the default, no prompt to do so ever displayed on the screen. Yes, this is a bare-bones system, but when you are trying to make security easy for even the most basic user, you need to do a little bit more handholding.

Also, though a green LED on the Belisarius glows when you first power it up, the light turns off after a few seconds. This makes it difficult to know for sure when the device is actually on.

TINY, BUT POWERFUL

Tiny Hardware Firewall is configured by default to reject all unsolicited outside packets and to allow connected devices to communicate freely. Once I was connected behind THF, I used a different laptop and went hunting. I used Wireshark and nmap and a few other tools, but I never got past the firewall to see the computer itself, let alone try to break in. All the traffic—even when I had multiple devices behind THF—was encrypted. THF should be used alongside a security software suite, not treated as a replacement. There's so much bad stuff out there that it sometimes feels like a losing battle, but this Editors' Choice—worthy product shifts the balance a bit in your favor.

FAHMIDA Y. RASHID

“
**THF should
be used
alongside
a security
software
suite, not
treated as a
replacement.**
”





The Best Free Way to Create Digital Music on Your Mac



There's been a seismic shift in how records are made. A couple of decades ago, it took a mountain of gear to make an album. Now you can do it with the built-in software that comes with every Macintosh, thanks to GarageBand 10. The latest version sheds its cartoony interface for a more serious presentation that mirrors the high-end Logic Pro X digital audio workstation. Although GarageBand lacks Logic's amazing flexibility, vast array of instruments, and powerful mixing and mastering features, for many other tasks, GarageBand is almost as powerful. The fact that it's free makes it all the better.

Apple
GarageBand 10
(Mac)

Free



SETUP AND USER INTERFACE

To use GarageBand, you'll want to plug in a USB-compatible MIDI keyboard and either a pair of headphones or a small pair of desktop speakers. For plugging in an electric guitar or bass, or microphones to record vocals and other acoustic instruments, you'll also want to buy an audio interface.

I prefer GarageBand's new interface to the old one, though existing users may need a moment to adjust to it. When you first create a project, you're given a choice of various templates, as well as an empty project you can populate yourself from scratch. Select one and you'll enter the main interface. The top-right portion of the window is where you add new tracks and mix them

Apple GarageBand 10 (Mac)

PROS Streamlined, easy-to-use interface. Enjoyable instrument lessons. Works with Logic Remote on the iPad for wireless control. Supports 24-bit recording, third-party AU plug-ins. Records up to 255 audio, MIDI, instrument tracks.

CONS Podcast features are gone. No PC version.



together. Click on any recorded data to bring up an editor in the bottom portion of the display. Here, you can switch between piano roll and score views, an audio editor, and where appropriate, an EQ tab that displays a beautiful, clean-sounding parametric equalizer for the given track.

The left side of the display shows what instrument you've selected to play. The top bar includes icons for

GET STARTED RIGHT

Though GarageBand uses templates to simplify song creation, it's still an incredibly powerful composing tool.

triggering the various windows, a transport bar for recording and playback, an LED-style readout for the current beat, bar, tempo, meter, and other information, and icons for loop recording, a guitar tuner, a count-off, and metronome. It's easy to resize the various windows or change zoom levels using the on-screen sliders. To the far right, you can bring up a Notes page, an audio loop browser, and media drawer for recorded audio and movies to which you want to sync music.

RECORDING AND IPAD CONTROL

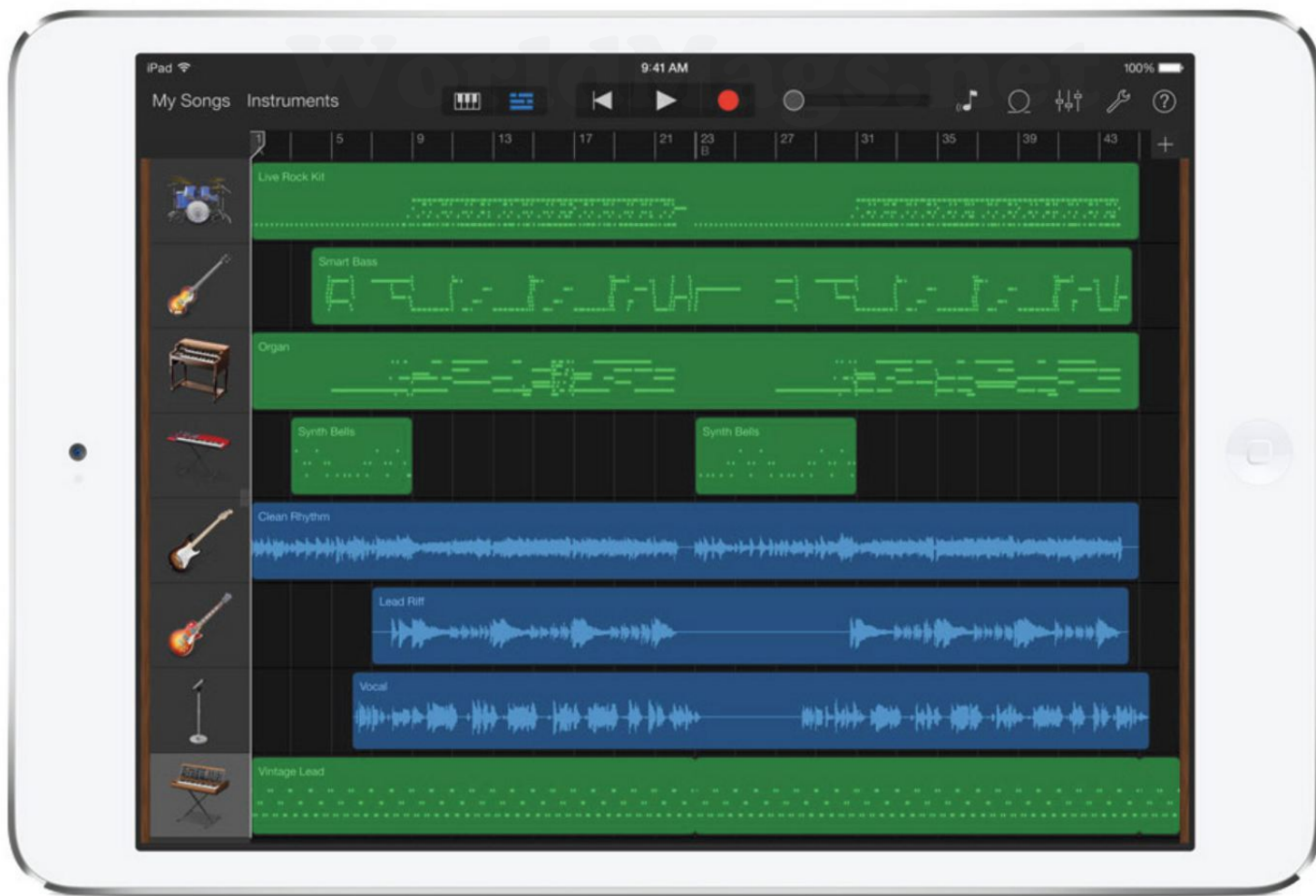
Recording is as simple as arming a track and clicking the Record icon. You can use a mic if you have a USB-powered one, or an audio interface with a mic preamp you can plug a microphone into. You can record and mix up to 255 tracks, and only your audio interface limits how many you can record simultaneously. You can easily record multiple takes and comp together the best one visually. Basic editing isn't a problem either, and you get some advanced features for that, too: Flex Time lets you massage the groove of a given audio track; Groove Matching will then match the other tracks to the one you have set up perfectly. These are surprisingly transparent sounding as long as you use them within reason.

There's still no proper mixing board, but that's not necessarily an issue. Instead, you use the left side of the arrange window as a mixer, with horizontal sliders on each track. There's a reverb effect, and you can pan tracks from left to right in the stereo field; you can also apply compression to recorded audio tracks. Unfortunately, Apple removed dedicated podcast tracks, effects, chapters, and embedded links; you can still technically record a podcast, but GarageBand is no longer ideal for the job.



Recording is as simple as arming a track and clicking the Record icon.





GarageBand 10 works with the excellent Logic Remote app on the iPad. You can use your iPad to wirelessly play any GarageBand instrument on the Mac, adjust the Smart Controls for individual sounds, and otherwise edit and arrange your project. It also has built-in transport controls, so you can record with a guitar or vocals on one side of the room while you remotely start and stop the Mac on the other side using Logic Remote. This is the kind of thing you needed a \$1,000 hardware control surface and a professional digital audio workstation program for just five years ago; now it's free if you have an iPad.

INSTRUMENTS, SMART CONTROLS, AND LESSONS

There's a solid sound library built in, although sparsely populated; I counted 51 instrument patches. You do get a sweet-sounding acoustic drum kit, an 808-style electronic kit, electric and acoustic basses, and a small variety of synth pads, leads, and basses. There's a nice acoustic piano, electric piano, clavinet, and tonewheel organ, and acoustic and clean electric guitars. The included orchestral instruments are barren, though, lacking a choir, harp, pipe organ, and percussive kit. Guitar players can plug in and choose from a selection of 25 amps and cabinets, plus 35 separate stompboxes, as well as a brand new Tuner feature that certainly comes in handy.

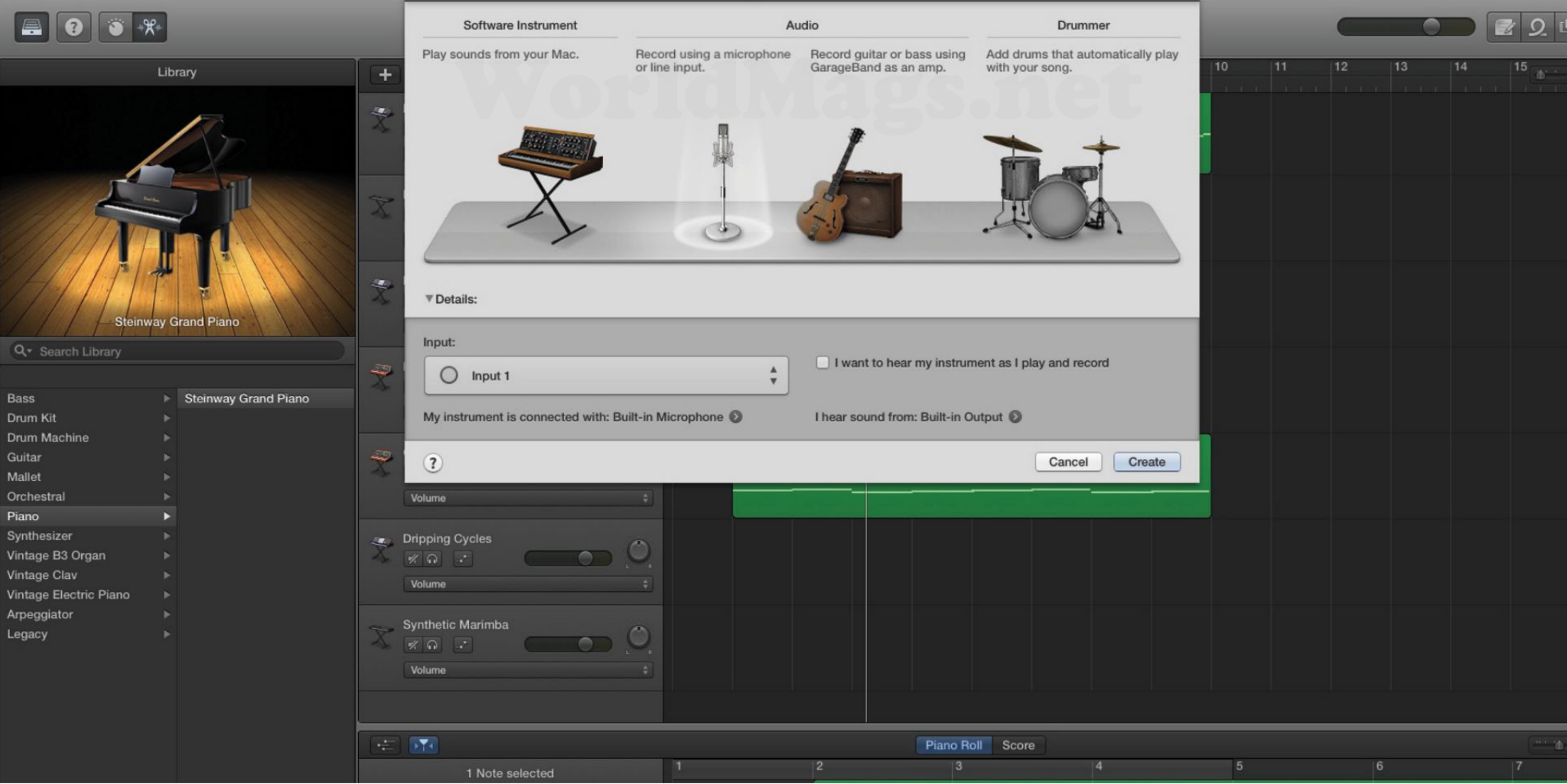
Taking another page from Logic Pro X, Smart Controls highlight the most effective parameters to tweak for a given sound, and present knobs, buttons, and sliders for you to adjust, depending on the instrument. A new collection of Apple Loops gets you started in a variety of genres. You also get Drummer, a virtual session player plug-in that accompanies your tracks; drop it on a track,



and you'll get an automatic groove you can tune in real time to simplify or busy up the playing.

The base GarageBand program comes with one drummer personality and kit, but you can add more via an in-app purchase. The \$4.99 expansion pack is a killer deal—it adds 150 extra instrument sounds, plus 1,500 loops, 14 more drummer personalities and kits, and 38 basic piano and guitar lessons to help you learn either instrument. Even with the expansion pack, though, there are just two string sounds, both of which have long sustain, and no marcato or pizzicato effects.

On the plus side, all of the old sounds from the earlier GarageBand stick around under a Legacy folder for your projects, and fill in a few of holes. It quickly becomes obvious how good the new patches sound, especially the Steinway piano and the acoustic stand-up bass. GarageBand supports third-party AU plug-ins, so you could buy or download free virtual instruments and add to your sonic repertoire—and those will of course carry over if you upgrade to Logic Pro X or another professional DAW. A quick check around the Internet indicates that some people have had trouble with existing third-party plug-ins, so check each manufacturer's website to ensure compatibility.



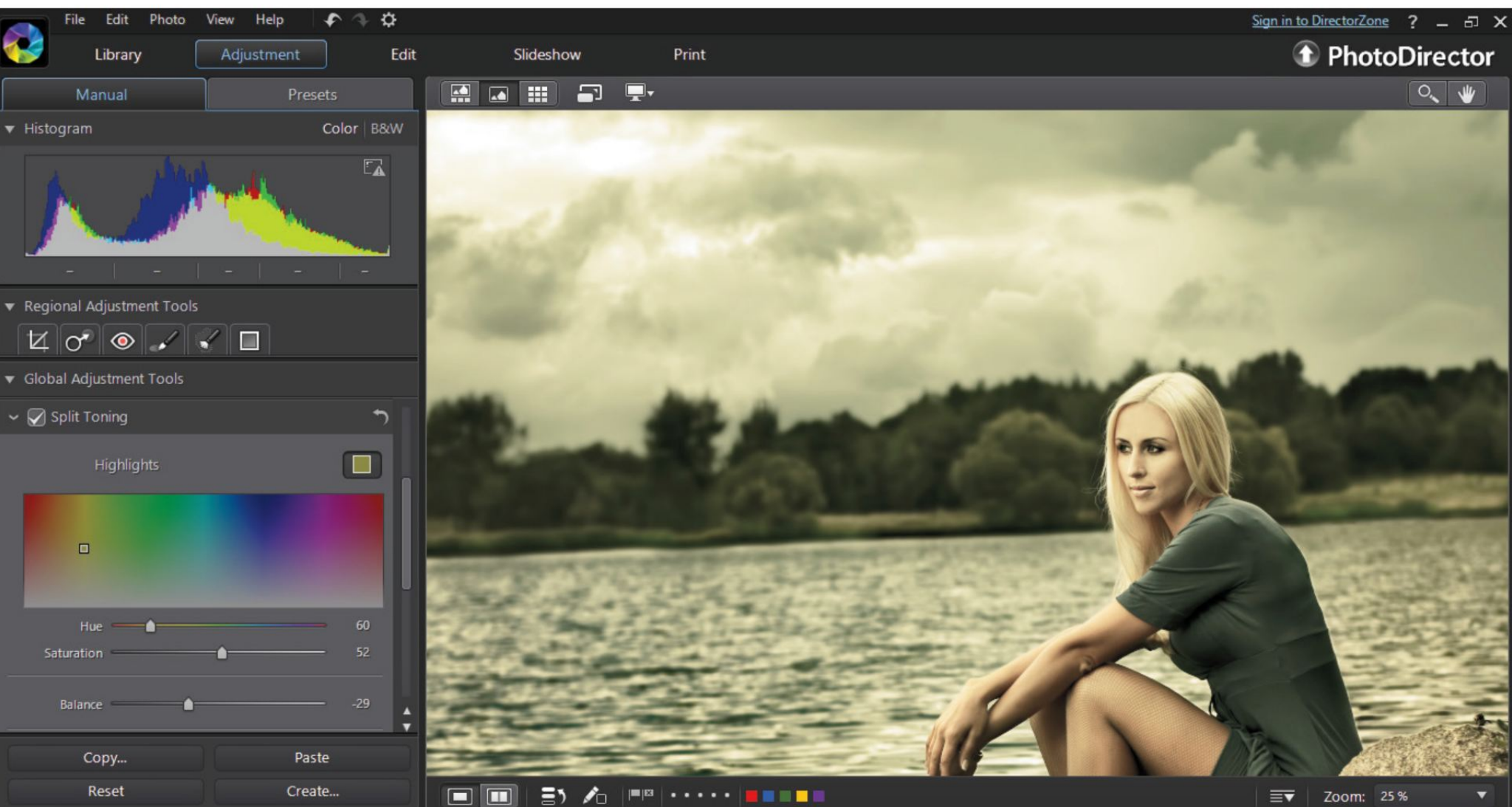
OTHER FEATURES AND CONCLUSIONS

In addition to the included lessons with the expansion pack, you can also buy individual lessons à la carte that feature some famous artists like Sting playing their signature hits. Each lesson provides real-time feedback as you play to show you what you've done correctly or incorrectly. There are plenty of online sharing options for social networks, and you can export to SoundCloud, iTunes, or a custom ringtone file for your phone. You can also save projects to iCloud, or better yet, start a project on GarageBand on the iPad or iPhone, save it, and then open it in GarageBand on the desktop.

If you're new to GarageBand, you're going to love it; it's incredibly powerful for a free DAW, and the \$4.99 in-app purchase gets you a ton of useful additional content. If you're already a GarageBand user, the picture is a bit murkier because of the missing podcast features and some significantly rearranged editing and mixing tools. You can install it anyway, as it's free and you can keep the two versions separate on your machine.

PC users should have a look at Cakewalk Sonar X3, which offers similar recording facilities and much more flexible mixing for a still-reasonable \$99, although Sonar X3 lacks GarageBand's instrument lessons and iPad control features. All told, you can't beat GarageBand for plugging in a MIDI keyboard, or a guitar or vocal mic into an audio interface, and making music immediately.

JAMIE LENDINO



This Powerful 64-Bit Photo Editor Is Feature-Rich

Though I'm pretty committed to Adobe's Lightroom for my digital photography workflow, CyberLink's PhotoDirector is quick, powerful, and dressed for success in a clear, pleasing interface. This latest version delivers 64-bit operation and new tools including lens profile-based image correction, multi-shot HDR, and improved noise reduction that make it more capable of getting your photos looking their best. These come on top of other advances, such as face-tagging, chromatic aberration and geometry corrections, content-aware object removal, and a body slimming tool. Overall PhotoDirector is good, if not quite at Lightroom's level.

**CyberLink
PhotoDirector 5**

\$99



WHAT'S NEW?

The biggest news for PhotoDirector is its 64-bit operation. This means you can take advantage of more than 4GB of RAM—something you'll want for times you have a lot of high-res photos open and are doing heavy image manipulation. I was able to load 64 20MB images (at dimensions of 5,472 by 3,648) with no sweat, and experience lag no worse than I see with Lightroom.

PhotoDirector's new image noise reduction adjustment tool did a good job of cleaning up noisy shots, and its magic wand made doing so a snap (though sliders, for making more detailed adjustments, are also available). A bracket HDR tool accessible in Edit mode lets you merge up to five photos of the same subject shot at different exposures, with pleasing results you can customize. With the new split toning feature, you can increase or decrease saturation for a particular color, or for highlights or shadows, or use more than 40 presets to do so automatically. And tone curve editing gives you the ability to adjust input and output tones from dark to light and split adjustments between the three RGB channels for truly nuanced effects.

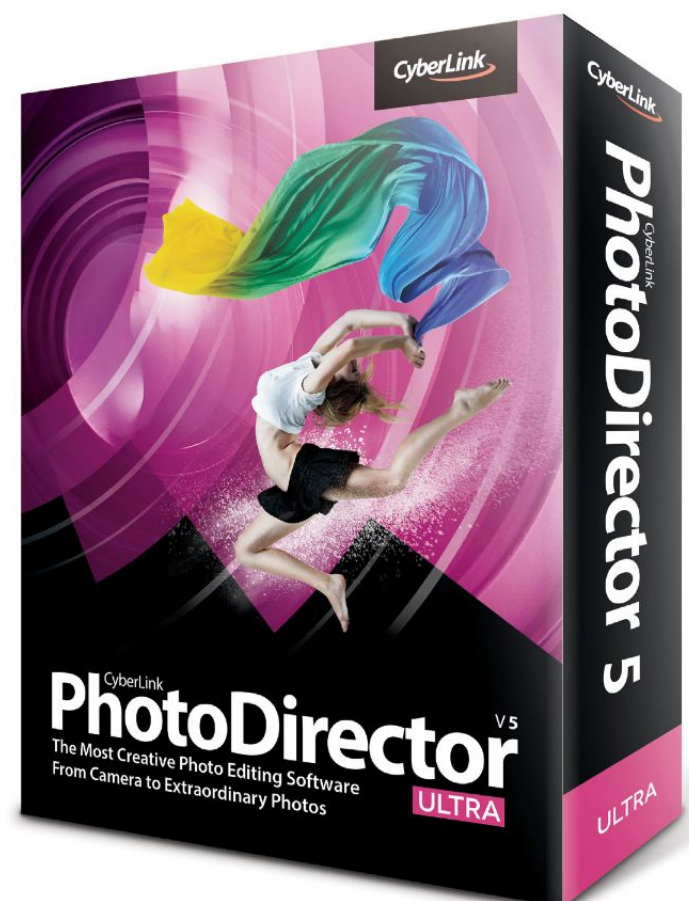
PhotoDirector can now “stack” photos based on date and time shot, a useful organizational tool that Aperture and Lightroom have long offered (you can, of course, manually stack them, too); stacks conveniently appear in library mode as a single thumbnail. Though there are only 60 lenses supported in its lens profile correction function (Adobe has 600 and DxO Optics Pro claims more than 17,000), it's an efficient and effective way to fix issues introduced by the lens you shot with—assuming you have a supported lens, of course. (Chromatic aberration was actually made worse in a photo shot with one lens I tried, however.)

In addition, PhotoDirector now supports high-dpi displays, such as Dell's UltraSharp U3014 monitor or

CyberLink PhotoDirector 5

PROS Friendly, powerful interface. 64-bit operation. Effective noise reduction. Cool faux HDR effect. Exports directly to Facebook, Flickr.

CONS Slow photo import. Few lens-profile corrections. Inadequate chromatic aberration correction. No geo-tag maps, easy image emailing, tethering.



the screens you'll find on Retina display–equipped Apple systems. There's also now a complementary Windows 8 tablet app that lets you edit photos on the go. Finally, a new slideshow option lets you include video at resolutions up to 4K, with transitions, effects, titles, and soundtracks.

BASIC OPERATIONS

PhotoDirector's clear and attractive interface hasn't been changed much: You do everything from one screen, rather than from separate editing and organizing apps as with Adobe's Photoshop Elements.

As is common among pro and near-pro-level photo workflow apps, PhotoDirector uses “modes” that switch the interface among different functions: Library, Adjustment, Edit, Slideshow, and Print. Switching

You do everything from one screen, rather than from separate editing and organizing apps.



between the modes is as simple, and they're all well organized to help you find the functions you need. The main viewing area is flexible, giving you multiple ways to display your photos (as a filmstrip, as a gallery, as file names, and so on). There aren't that many filtering options in the gallery, but hovering the mouse pointer over a thumbnail in that view will display the information you need.

AFTER-THE-FACT FIXES

PhotoDirector's lens correction tool can help you solve problems after you shoot, but it has a small lens library.

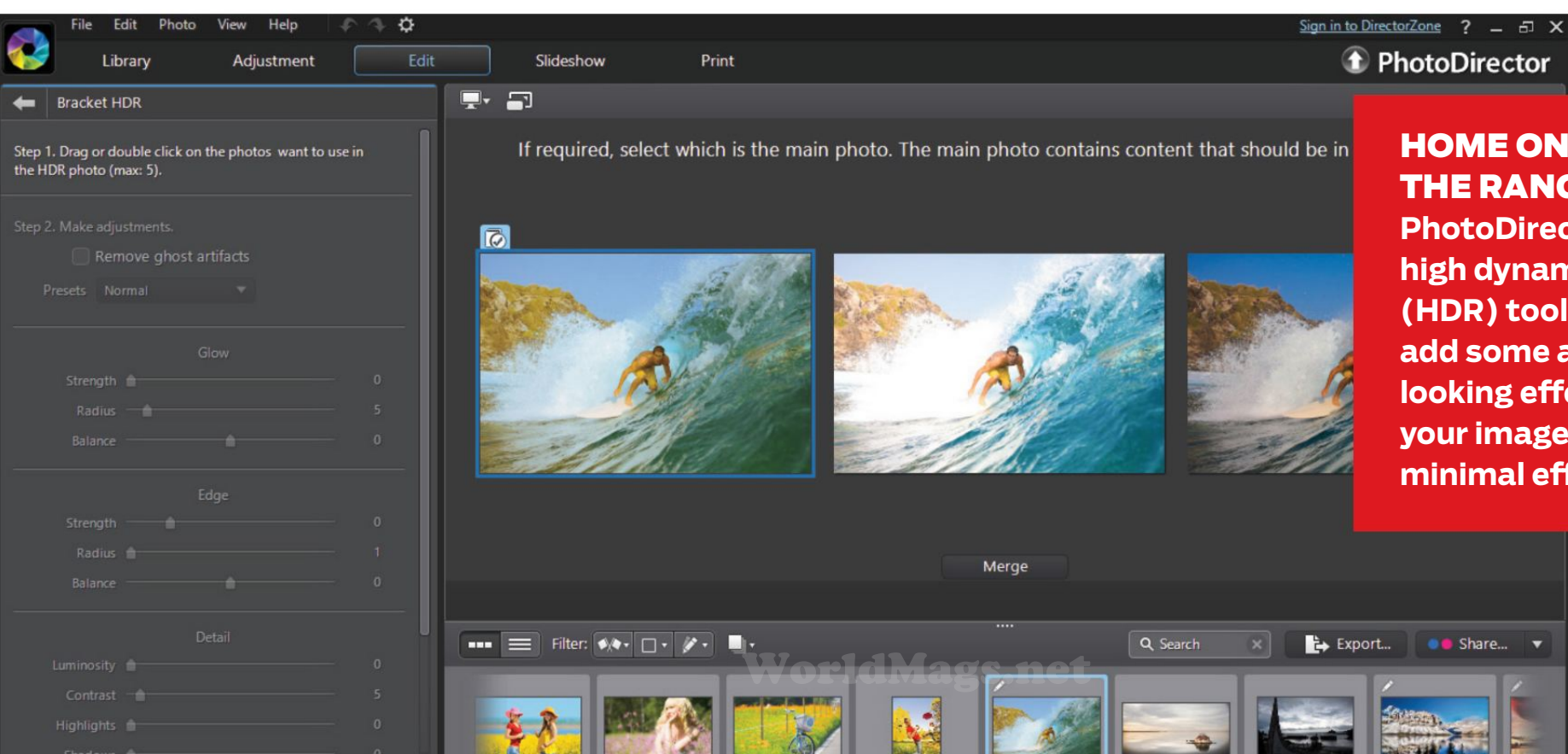
Adjustment mode uses a split screen to show your photo both before and after edits. A wide selection of keyboard shortcuts lets you speedily perform most tasks once you've learned it. Undo is well implemented, and an excellent adjustment history panel shows all previous tweaks as well as a thumbnail view of those tweaks effects.

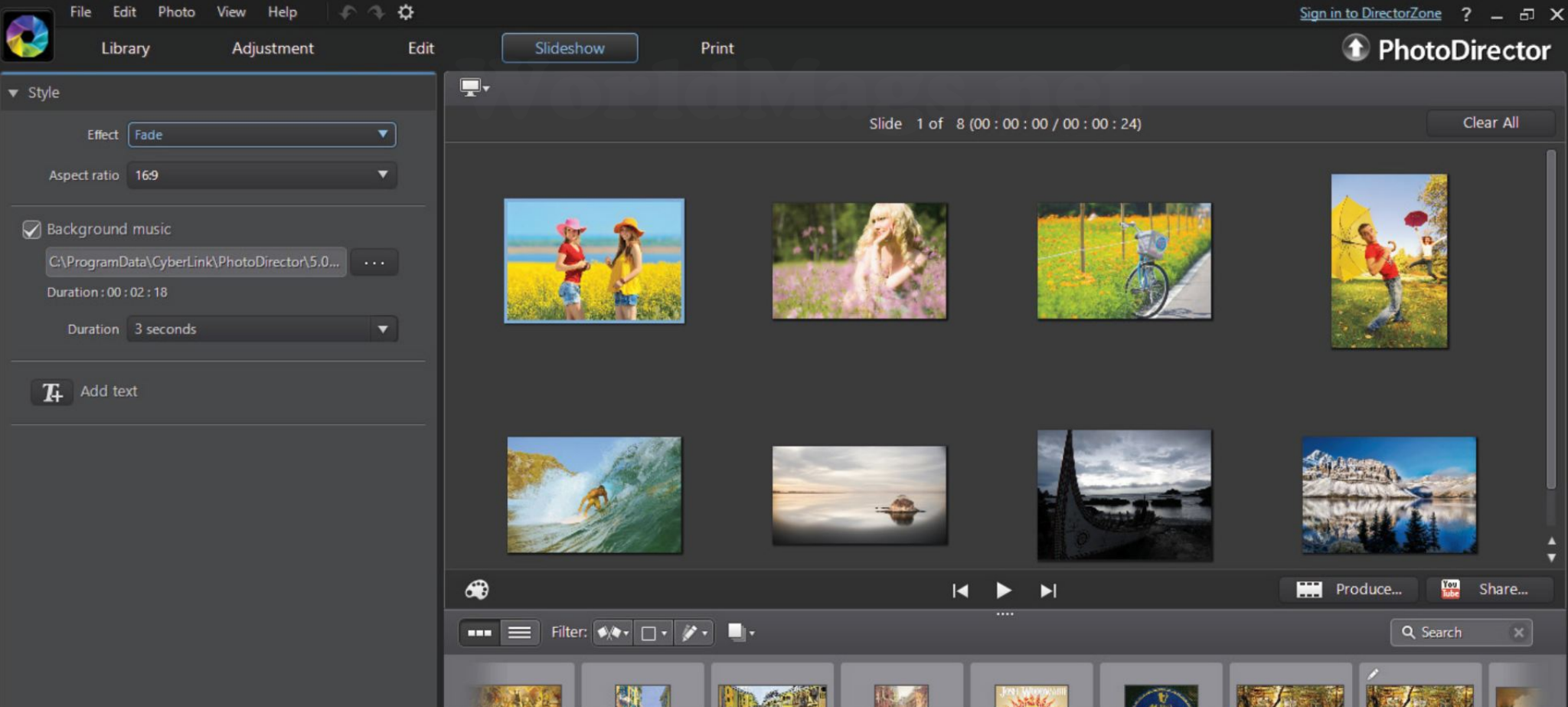
When you import photos, zoomable thumbnails of images are grouped by date, and you can apply a number of effect presets right from there, or add keyword tags or a copyright notice, or rename files—though, oddly, you can't perform basic adjustments such as auto-exposure. Once your photos are in the program, there are plenty of organizational tools with easily accessible ratings, color coding, face-tagging, and flagging tools—though, sadly, no geo-tagging or map functionality.

ADJUSTMENTS AND SHARING

PhotoDirector offers all the basic adjustments you'd expect—exposure, contrast, white balance, sharpness, with red eye and blemish removers added to the local adjustment brushes and cropping and rotating showing you the final result rather than an outline of your intended crop (as in Adobe's software). More pro-image editing tools, such as curves and levels, are on hand as well. When it comes to pumping up or cutting down on overly dark or bright areas, PhotoDirector gives you control over five levels of brights, midtones, and darks—more than in most programs. Geometry adjustment lets you fix the barrel and pincushion distortion of telephoto and wide lenses.

I had a lot of fun with PhotoDirector's HDR effects. Using these in combination with other tools can produce some spectacular results, particularly where dramatic clouds are concerned. Other editing tricks include content-





aware object removal and a “Body Shaper” to quickly trim off some pounds. These tools have a wizard-driven process that makes creating the effects simple. I had mixed results with both tools, but overall they were good. Other effects include a Photo Composer for combining photos, watermarks, and a blur tool that allows selective focus for a “bokeh” effect (but no real tilt-shift). You can also brush tints onto specific areas of the photo. Finally, I should note that you can download other users’ editing presets from CyberLink’s online exchange, DirectorZone.

PhotoDirector offers clear buttons for sharing directly to Facebook and Flickr, but there’s no easy way to email photos. You can generate slideshows for either instant viewing, saving to an MPEG-4 video file or directly uploading to YouTube. Lightroom goes beyond this with actual video editing capabilities. PhotoDirector’s dedicated Print mode offers every imaginable paper size, custom grid settings, and watermarking, but there aren’t presets for standard sizes, and there’s no soft proofing like you get in Lightroom.

A GOOD DIRECTION FOR PHOTOS

Faster import, geo-tagging, and much more effective lens-profile-based corrections combine to keep Adobe Lightroom our pro photo workflow Editors’ Choice. But I continue to be impressed with PhotoDirector, a relative newcomer among photo workflow apps that has a well-thought-out interface and boasts all the standard photo editing tools along with a bunch of cool extra goodies.

MICHAEL MUCHMORE

Features

**CONNECTED CARS
SHIFT INTO
HIGH GEAR**

**THE BEST TECH FOR
YOUR WEDDING**

**IS THIS A SEARCH
COMPANY?**

CONNECTED CARS SHIFT INTO HIGH GEAR



High-tech automotive features are no longer the province of \$90,000 BMWs, as even mainstream vehicles are getting connected. Here are five of the best for this year.

BY JAMIE LENDINO



Your next car may very well be a connected one. After years of expensive, experimental tech that you could only find on the priciest luxury models, you can now buy cars at regular, mainstream prices that are loaded with next-generation safety and infotainment technology.

At its core, the definition of a “connected” car is one that’s connected to the Internet in some way—via a cellular radio that’s either in your smartphone or built into the car itself. This is light years beyond plugging in your iPod; with cars like this, you can stream Internet radio, run Google searches, and navigate with GPS using always-current maps, to name just three common examples.

And that’s to say nothing of safety advances. Connected cars also tend to have advanced collision avoidance features, some of which hint at autonomous driving capabilities. One early example is adaptive cruise control, which automatically depresses and releases the accelerator pedal to stay even with traffic on the highway even as speeds ebb and flow.

Meanwhile, car manufacturers are adapting in a different sense: Rigid four- and five-year model cycles used to be the norm, but systems are becoming more modular and upgradable throughout a car’s production run—and even, in some cases, well after the owner drives away with the car.

What follows here are the five best examples of mainstream connected cars we saw at the Detroit Auto Show this year. These are vehicles you can actually buy, with real money, right now, or that will be available before the end of 2014.



2014 CHEVROLET IMPALA



Full-size sedans are returning with a vengeance as auto manufacturers begin to wring economy car–like fuel efficiency out of them. Chevrolet offers OnStar 4G LTE as an extra-cost option on its shrewdly updated Impala sedan, along with the Malibu, Corvette Stingray, and Volt. Other models will follow suit by the 2015 model year. But the Impala is arguably the most important, given the historic status of its nameplate.

Each Impala so equipped will work as a rolling Wi-Fi hotspot, meaning passengers can connect smartphones, tablets, and laptops to the Internet. Plus, because connectivity is embedded in the car, the Impala could also run apps via its infotainment system that connect directly, without having to tether a smartphone first. For example, by 2015 the Impala will be able to download apps for music, vehicle data tracking, news, weather, and travel information; expect to see iHeartRadio, Priceline, The Weather Channel, and Slacker Radio, among others, as options.



The 201-inch-long Impala sedan is available now. It starts at \$26,860, but an LTZ model with the full MyLink infotainment system and onboard 4G LTE connectivity costs about \$38,200. Although the Ford Taurus is a good car, the Impala seems to have leapt ahead in more ways than one.



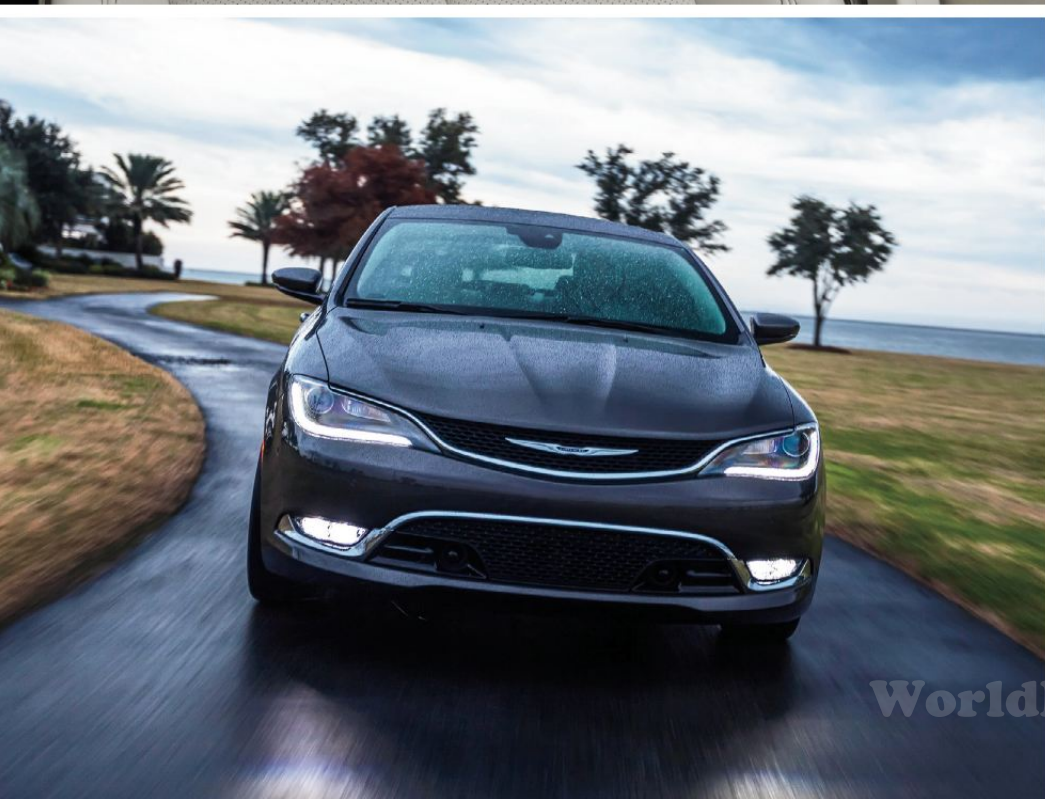
2015 CHRYSLER 200



Chrysler's much-maligned 200 sedan finally gets the redesign it's needed for so long. The jury is still out until we drive one, but the new 200 should shed the nameplate's milquetoast rental car reputation for one that's far more engaging to pilot.

You'll need to pony up a bit extra for the best in-car tech with this one. Base models get steering wheel-mounted audio controls and a USB input; the LX adds Bluetooth and a multimedia system with a 5-inch display. Higher trim levels offer Uconnect 8.4, which features a larger 8.4-inch touch-screen display, a nine-speaker sound system with a subwoofer, and a 7-inch digital gauge cluster.

The real advances, though, are in the SafetyTec package. It features adaptive cruise control and brake assist, blind spot and cross-path detection warning systems, lane departure and front collision warning, and a semi-autonomous park-assist feature. That's a lot of tech for a midprice, midsize sedan.



The 200 will be available sometime in late spring, with a choice of either four- or six-cylinder engines, a first-in-class nine-speed automatic transmission, and optional all-wheel drive. Prices start at \$22,795 and rise above \$30,000 with the better engine, all-wheel drive (AWD), and the various aforementioned goodies.



2015 HONDA FIT



The new Honda Fit isn't the most advanced car in this story by any means. And it shouldn't be, at roughly \$20,000 out the door, depending on the configuration. But it's arguably the most significant one, precisely because you can get so much technology for so little money.

The midrange EX model is where the action is. It comes with a 7-inch capacitive touch screen and LaneWatch, a system that activates a camera mounted underneath the passenger-side mirror whenever you flip on the right turn signal. When that happens, the center-mounted display will show up to four lanes to the right of the car, eliminating the blind spot.

For just \$60 extra, you can buy HondaLink, which leverages your iPhone or Android phone's GPS navigation and displays maps on the center-mounted screen. Why spend \$800 or more on an in-car navigation option when you can do this? The system also displays text messages from your phone, social network status updates, and news and weather information, while a special Launcher cues up additional third-party apps on the display.



The 2015 Honda Fit shrinks from 162 to 160 inches in length, but gains over 4 inches of rear seat legroom, thanks to better packaging and more efficient use of the already surprisingly cavernous interior. Honda has yet to announce a release date for the Fit, but a reasonable guess would be sometime in the fall. If it's anything like the last model when it was introduced in 2009, it will sell at sticker price or even slightly higher for the first several months. Whether the new Fit is as fun to drive as the current model remains a question, but we're betting it will be.



2015 HYUNDAI GENESIS



If there's any doubt that Hyundai is serious about playing ball with Mercedes and BMW, this car should banish it. The second-generation, rear-drive Genesis sedan, new for 2015, sports a revised chassis, more distinctive styling, and a more luxurious interior. It also works with a Google Glass app that lets you unlock the doors and start the car, as well as connect with Hyundai's OnStar-like Blue Link system.

If you're an iOS fan, the Genesis works with Apple's Siri "Eyes Free" mode for accessing messages, calls, GPS navigation, and more while behind the wheel. The Genesis also gets SoundHound and Pandora integration, as well as an optional AWD system for the first time. The jury is still out on Google Glass, as it's not a product consumers can buy just yet. But as one jury recently ruled, you can wear it while operating a vehicle.



Like the current model, the new Hyundai Genesis will continue to start under \$40,000 with the 333hp six-cylinder engine; a 5.0-liter V8 model is still available, along with an eight-speed automatic and AWD for the first time. In person, this car looks considerably more expensive than it is; even if it's still not a tremendous styling statement, your neighbors will think you have BMW 7 Series money.



2015 MERCEDES C-CLASS



Mercedes is pushing its popular compact sports sedan upmarket, especially in light of the debut of the smaller, sub-\$30,000 CLA. But the C Class gives you more for the money, thanks in large part to its Intelligent Drive infotainment and safety system.

Standard features include Attention Assist, which can detect if you're feeling drowsy at the wheel; Collision Prevention Assist Plus, which triggers the brakes if a collision is imminent; and COMAND, a smart navigation system with an oversized display that protrudes from the center of the dashboard. There's also a heads-up display that projects information in front of the driver onto the windshield.

Options include Bas Plus Brake Assist System, which observes crossing traffic and can increase pressure on the brakes; a Pre-Safe Brake feature works the same way whenever the system sees pedestrians or parked vehicles. DISTRONIC Plus With Steering Assist automatically follows a car at speeds of 37mph or over, while Active Lane Keeping Assist ensures the C Class stays in lane while doing so.



The 184-inch C Class should hit showrooms in September in two versions: the C300 4MATIC, which features a 2.0-liter turbo four outputting 241hp, and a C400 4MATIC with a 3.0-liter turbo V6 spinning 329hp. There's no official pricing yet, but it's a good bet Mercedes will hold the line on the existing C Class's \$36,700 base price; check off enough of the options mentioned above and it's easy to surpass \$50,000.

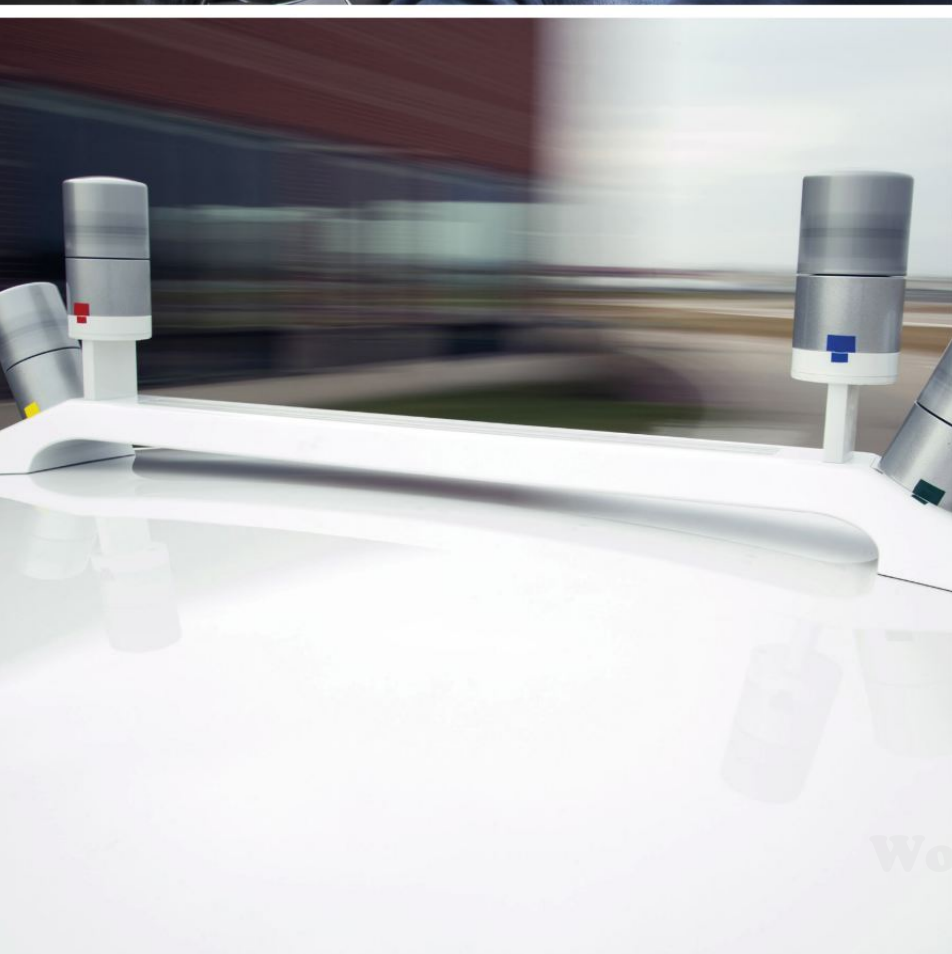


NEXT CAR ADVANCES



These 2014 and 2015 models may be impressive, but that's nothing compared to what's coming. Details for these technologies aren't nearly as well fleshed out; we'll have to wait for the official model unveilings for that. But all indications are that we'll begin to see more of the above features across the board.

Augmented Reality: This is a catch-all buzzword for any feature that enhances the real-time view of the observer. In an automotive sense, the same technology that projects a heads-up display onto the windshield could work over a wider area. For example, Mercedes has demonstrated a concept car that can display reviews for a restaurant as you drive by it, or highlight if a person on the street is someone in your social network (say, for example, if you're driving to meet them). Automotive parts supplier Aisin has a concept in the works that can re-add upcoming road signs to the view out if there's too much fog, and for GPS navigation, project exactly what lanes to be in via large overlaid arrows on the road ahead.



Autonomous Driving: This is the one everyone's talking about. It's not going to be all-or-nothing; we're already seeing it in park assist systems, collision avoidance, and lane maintenance technology, where the car takes over a portion of the driving control but not all of it. Next up would be a system that parks the car from start to finish, even without the driver providing accelerator and brake input, or a system with adaptive cruise control that works over a wide range of speeds and not just on the highway.

The Automated Ford Fusion Hybrid Research Vehicle (pictured here), unveiled in December, is a rolling test bed for future autonomous driving and safety technology. It works via Lidar, which measures distance from objects by firing a laser at them and processing the reflected light. Along with an omnidirectional spherical camera, the system assembles a 3D map that captures a detailed picture of the driving environment—letting the car navigate roads by itself in real time. It is also capable of tracking (and therefore steering clear of) pedestrians and animals by the heat they generate.



Smartphone Integration: This is already happening to some extent, but over the next several years we'll begin to see more specific app support by platform—and it may even extend across entire model lineups. For example, Google has announced an automotive initiative to develop Android-specific integration with GM, Honda, and Hyundai, along with the help of graphics hardware manufacturer Nvidia, while other car makes have already thrown in with iOS. A world where it's possible to suggest buying a make and model of vehicle based solely on its Android or iPhone support isn't far off.

Digital Health: Automotive part suppliers Denso has developed concept demos that, in addition to integrating adaptive safety systems like the ones mentioned above, also monitor the health of the driver, and can detect if the driver is about to have a heart attack or other condition that could cause an accident.

The Best Tech For Your Wedding

BY CHLOE ALBANESIUS

Don't stress the most important day of your life. These apps, websites, and gadgets will help you make your wedding both worry-free and memorable.





1f reality shows and rom-coms are to be believed, the process of planning a wedding can either be a joyous adventure or a stressful hellscape. Indoor or outdoor? Classic or trendy? Intimate or grand? Wedding planners can ease the stress, but not everyone can afford a lavish spectacle from the likes of David Tutera.

Thankfully, the Web brings the wedding industry to you, offerings apps, websites, gadgets, and gizmos to help craft a dream wedding that doesn't break the bank (or drive you insane).

The Planning Stages

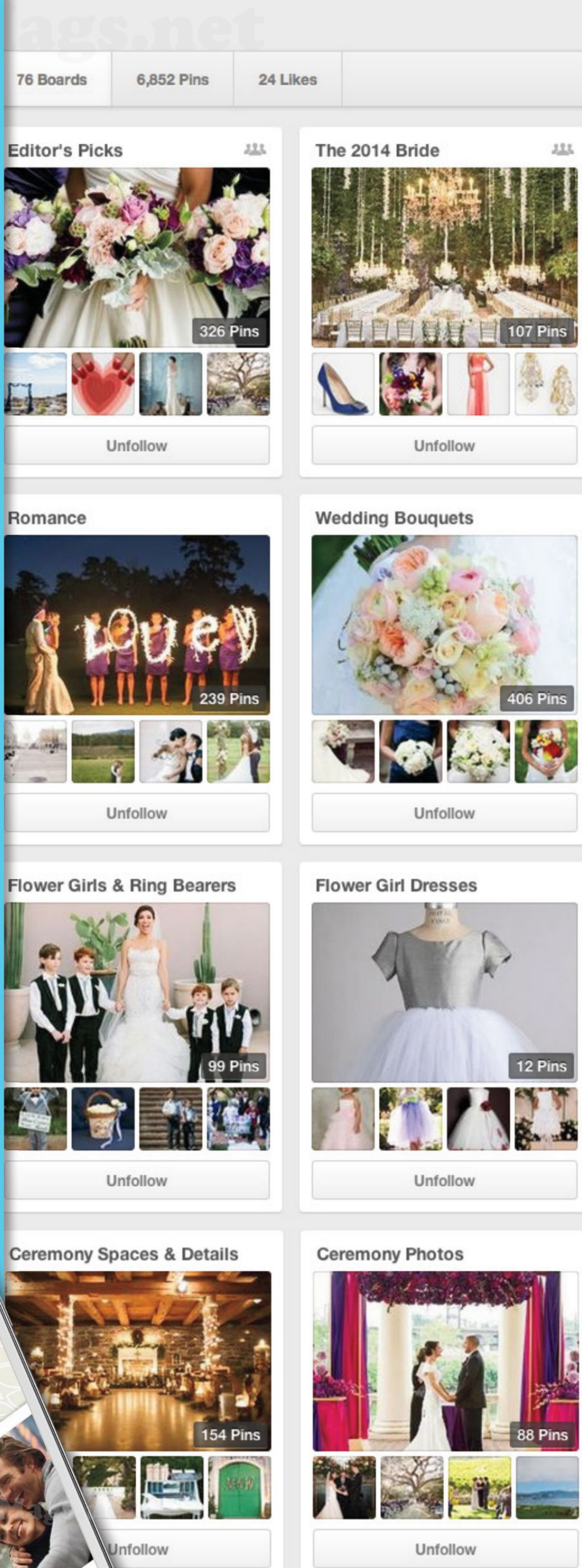
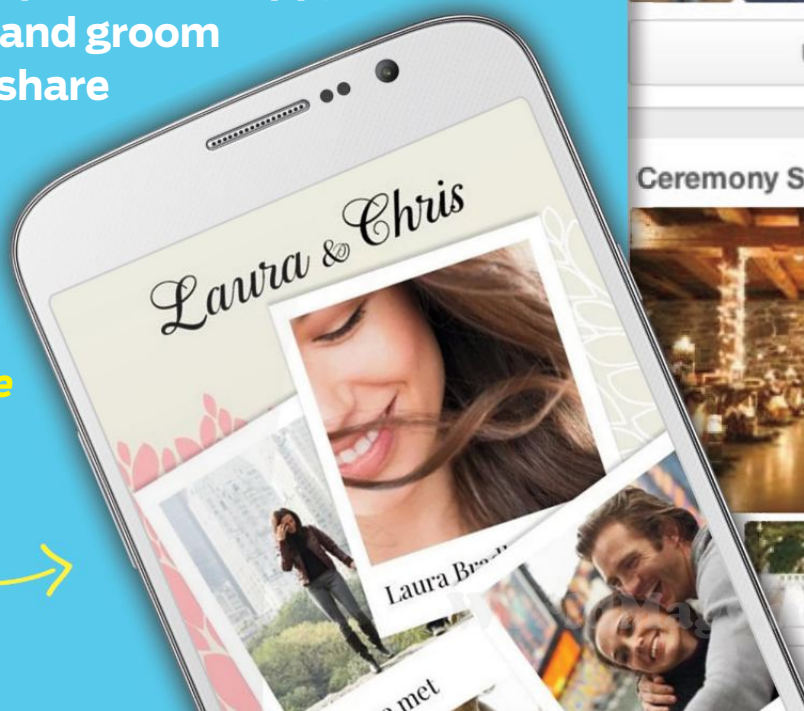
The Knot on Pinterest



The Knot is a logical place to start, with everything from links to local vendors and etiquette lessons to dress ideas and honeymoon suggestions. But that's certainly not the only one in the game; from MyWedding.com to Wedding Wire, couples are never at loss for inspiration and advice. There are also blogs galore—from Style Me Pretty to The Broke-Ass Bride; check out the best ones on weddingblogs100.com. Or you can fall into a shabby chic wormhole courtesy of Pinterest.

And how best to package that inspiration, but with a customized wedding website? Forget bulky invitation inserts; just post the details online. But to make sure it doesn't look like a Geocities site circa 1999, consider something like Appy Couple. This \$28 service lets couples share their stories, but also serves as a coordination tool, so guests and those in the wedding party can find updates about everything from local hotels and child care to details about the dress code and gift registry. Tech-savvy friends and family can download the Appy Couple app on iPhone, iPad, or Android, while those who haven't joined the smartphone revolution can check out your Appy Couple details on the Web. Once you're at the wedding, upload pics to the app, which the bride and groom can then opt to share publicly.

Sample of the Appy Couple mobile app



The *Planning* Stages

For those couples who need some digital alone time before the big day, check out the Avocado app. Described as a “private space for the two of you to collect and share a life,” Avocado invites couples to share everything from virtual hugs and messages to grocery lists and photos. It’s not specifically a wedding app, but it’s a nice way to stay connected amid the hustle and bustle of wedding planning. And couples can keep it up long after that last piece of cake has been cut and a wedding becomes a marriage. Best of all, it’s free and available on iOS, Android, and the Web.

But let’s back up. You still need to plan that amazing party. Did you know there was a Google for Weddings? There is indeed, though it’s really just a site with pretty flowers that suggests you use the search giant’s existing services to plan your big day. But Google actually has some pretty good tools for those in need of a little organization. I recall my own sister sending out color-coded, hourly schedules via Google Spreadsheets when she got married two years ago. Create your own spreadsheet with Google Drive, gather your wedding party for a planning session on Google Hangouts, and make sure people don’t get lost with the help of Google Maps.



The *Planning* Stages

If you have a little extra cash but no extra time, meanwhile, ask for help on TaskRabbit. You post a task you need doing, say how much you're willing to pay for it, and TaskRabbit will match you up. For example, you need to return a bridesmaid dress but don't have time to run to the post office. For \$10-15, perhaps your neighbor will do it for you. Just ask and see if anyone bites. The service is live in 18 U.S. cities, plus London, and is available on the iPhone and the Web.

One thing you might not need is traditional wedding gifts: punch bowls, fine china, and the like. Modern couples often already have common household items before getting hitched, so money is usually the next best thing. It can be a little impersonal, though, so Wedding Republic lets couples set up a website with details about how their wedding funds will be spent: the honeymoon, down payment on a house, dinner for two at a fancy restaurant, or even an iPad. Guests can pay for an entire item, or chip in for only a portion of a pricier gift. Either way, the happy couple will get what they actually want.

The gifts aren't all for you, though. You'll also need thoughtful trinkets for the wedding party and other people who make your day special, and where better to find unique presents than on Etsy? The online marketplace for artists and other creative types offers an endless array of options of all types of gifts, whether you want classic jewelry, bachelorette and bachelor party favors, or even a few outfit ideas for the honeymoon.



Our Honeymoon

\$200



Our First Home

\$150



Home Renovations

\$200



Art Hanging Track

\$25



Cooking Lessons

\$40



iPad

\$117



Poker Night!

\$50



Eco-Friendly Houseware

\$188

The *Big* Day

Lest you think the high-tech treats are relegated to the planning stage of your wedding, the big day can benefit from a few modern tweaks, too. For the true geeks, there are couples who change their Facebook statuses from “engaged” to “married” while standing at the altar and 3D-printed wedding dresses. A Texas company called Captured Dimensions will actually take a 3D photo scan of your body and then 3D print anything from a mini-me cake topper to a 3D silhouette on a light box, and for just \$399 to \$2,249.

But let’s not go crazy. We’re talking about things like saving on a DJ and creating your own wedding playlist with the help of streaming-music services like Spotify. An ad-free night of your favorite jams—minus the Electric Slide—can be yours with Spotify Premium for \$9.99 and some good speakers.

Meanwhile, ditch the videographer for an iPad equipped with the \$4.99 Thrilled for You app. Set it up on an Apple tablet with a front-facing camera and have wedding guests record personalized messages that you can then edit into one, big wedding video.

On a similar note, fire up Skype, Google Hangouts, or FaceTime on your smartphone and let guests who couldn’t make it attend your wedding virtually. Or slide that iPad into a \$2,500 Double Telepresence Robot and let them navigate themselves the party themselves like a modern-day Bubble Boy.

3D-printed
cake topper
from Captured
Dimensions

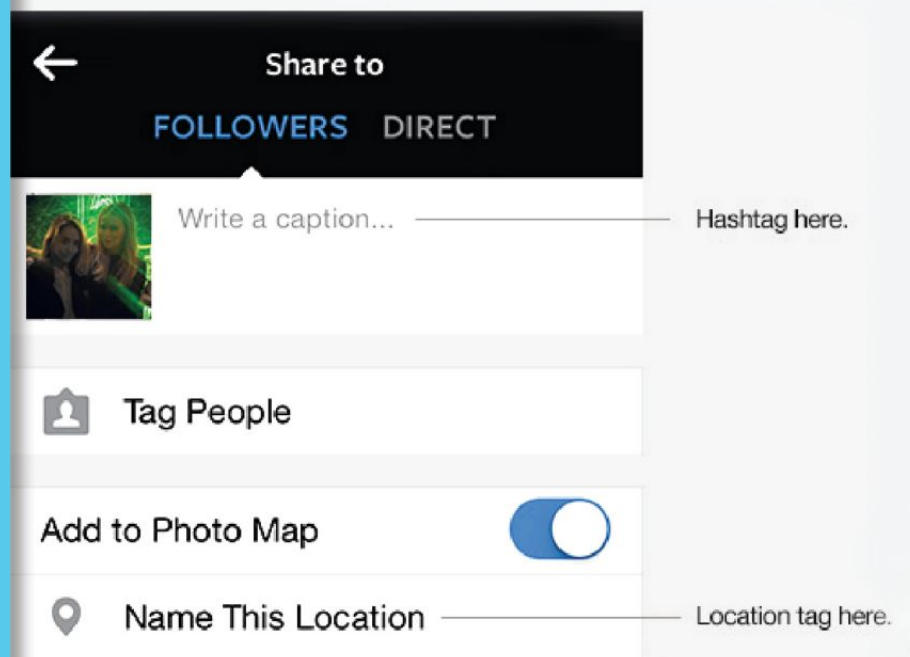
Thrilled For You
iPad app



The *Big* Day

For another splurge, look no further than Instaprint. For \$5,000 to \$7,500, connect an Instaprint to a Wi-Fi network, attach it to the wall, and it will wirelessly print out your guests' Instagram photos from anywhere within range. If that's too rich for your blood, simply create a wedding-specific hashtag (#BenLisa2014) that guests can attach to all their Instagram, Twitter, and Facebook posts from the wedding. It's easier and more environmentally friendly than handing out disposable cameras, and a quick way to catch up on the moments you might have missed during the night.

Finally, when it's all over, forgetful types might appreciate the Remember Ring. Approximately 24 hours before your anniversary, this device is supposed to warm to 120 degrees Fahrenheit for about 10 seconds to remind you about the impending milestone. "Hot enough to cause discomfort, but not hot enough to burn, the Remember Ring is impossible to ignore," reads the tagline. For \$760, you're probably better off just setting up multiple reminders on your smartphone (or, you know, just remembering the date), but this device is still in the concept phase and only available for preorder, so your fingers are safe for now.



IS THIS A SEARCH COMPANY?

BY SEBASTIAN ANTHONY



Google. When you read that word, the first thing you probably think of is search. Considering that Google accounts for about 70 percent of all Web searches in the world (or about 85 percent in the English-speaking world), and has for a decade, that's not a huge surprise. Heck, Google's search engine is so renowned and ubiquitous that it's one of only a few brands that have slipped from protected, trademarked usage into the common vernacular. It is not unusual to google instead of search for something—even if you're using Yahoo or Bing!—in much the same way you use a thermos or tear off some cellophane (both of which used to be capitalized trademarks).

You're probably aware that Google has other products, such as Maps, Google+, and Blogger, but they're inconsequential compared with Search. You could argue that Gmail and Android are important products, but even in the case of Android's hundreds of millions of users, it's not like much of anything would happen if Google ceased development—Android's open-source nature means anyone (Samsung, Microsoft, or any company in between) could pick it up and run with it. Losing Gmail would be a pain, but there are plenty of viable alternatives out there.

If we lost Google Search, however, we'd be discombobulated and distraught. Bing is just about usable in the U.S., and China has Baidu, but that's about it. Google Search is a fundamental part of the Internet. Without it, entire swaths of the Web would be deprecated and quickly laid to waste. I don't think it's hyperbolic to suggest that, without Google Search, society as we know it would change dramatically.

It is a little bit scary that one service has so much significance. Having a



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single point of failure, especially when the service is as important as Google Search, is never a good idea. In much the same way that we have multiple water reservoirs, power stations, hospitals, and schools, we really shouldn't have just one viable search engine. But beyond Search being an important part of your life, it is also the complete and utter be-all-and-end-all lifeblood of Google itself.

ARE YOU FEELING LUCKY?

Without Search, Google would have to fire the majority of its workforce or face losing billions of dollars per year. Google's revenues last quarter were \$14.9 billion. A full 91 percent of that, or \$12.54 billion, derived from advertising, most of which stemmed from paid ads on search results. The other \$1.23 billion came from "other Google revenues," mostly subscriptions to Google Apps (the enterprise version of Gmail and Drive). Android, despite shipping on more than 200 million smartphones in 2013, provides negligible revenue. (At the end of 2012, to give you an idea, it was estimated that Google had only made \$550 million from devices running Android, but almost \$2 billion from those running iOS.) The Chrome browser generates advertising revenue and nothing more; ditto Blogger. Google+, Maps, News—no income there. Basically, it's advertising and Apps, and that's it.

To derive so much of your revenue from a single source is incredibly dangerous. In much the same way that Google poached the search market from Yahoo, Alta Vista, and others, another start-up could pull the very same trick on Google. Despite booming revenues and profits, Google is precariously placed.

What Google needs to do is diversify: develop new revenue streams that, ideally, aren't connected to its advertising products. As it stands, almost all of Google's Web properties (except Apps) generate their money from display ads, which are managed by AdSense and DoubleClick (and yes, both are owned by Google). Google Apps is a good start—but Google needs more.

Of course, this isn't to say that Google isn't trying to diversify. In fact, Google is somewhat famous for its "throw it at the wall and see what sticks" approach, which has resulted in the company running a vast number of free products and services. Few of these, though, make any money—and in many cases probably



cost Google a lot to continually develop and keep online. After becoming CEO in 2011, Larry Page very quickly started the process of shuttering many of these services, stating that Google needed to put “more wood behind fewer arrows.”

Where then does this leave Google?

RISE OF THE ROBOTS

Google has never been afraid of using its huge cash reserves (estimated to be about \$60 billion) to acquire new products and personnel. DoubleClick and AdMob, Google’s two big cash cows, were big-ticket acquisitions (\$3.1 billion and \$750 million respectively). YouTube was acquired for \$1.65 billion. Motorola Mobility cost Google \$12.5 billion (though, as time goes by, it seems increasingly obvious that this deal was about patents rather than getting into the hardware business).

Historically, almost all of these acquisitions have strengthened Google’s core offerings (search, advertising, maps, mobile). But over the last year there’s been a distinct change in Google’s acquisition habits. Google is still bulking up its core services, but it has also started acquiring companies and talent that, at first glance, have little to do with its current profit centers.

The most notable of these acquisitions—at \$3.2 billion, Google’s second largest, behind Motorola Mobility—was Nest Labs, a small hardware company that makes the Learning Thermostat and Protect smoke detector. Throughout December 2013, Google picked up eight of the world’s top robotics companies for undisclosed sums—just as it did with Makani Power, an airborne wind turbine power generation startup, the preceding May, and AI startup DNNresearch. (Google also bought another AI business, DeepMind, for about \$500 million.) The purpose for all these is unclear.

INNOVATION HEATING UP

Google’s expanding into new areas, such as home automation with its recent purchase of Nest, could give it a stronger foothold in your house, office, and car.



One thing we do know: Almost all of Google's recent acquisitions have been folded into Google X, a secret facility where Google's crack team of innovators and entrepreneurs, led by Google's cofounder Sergey Brin, will try to develop these "science fiction-sounding" technologies into commercial products and solutions. Google X's most notable projects are Google's self-driving car, Google Glass, and a smart contact lens that uses tears to measure diabetics' blood sugar levels. Google X reportedly comprises approximately 100 projects, and it would seem that most of them are unrelated (or only tangentially connected) to Google's current core businesses. In short, Google X is on the hunt for Google's next billion-dollar business. But what will that billion-dollar business be?

THE FUTURE OF GOOGLE IS NOT SEARCH

We can probably ignore Google's smaller acquisitions for now (though given how much electricity Google's data centers consume, I wouldn't be surprised if it goes into the cheap/green energy sector), but some demand our attention. Although Google has a lot of cash, the \$3.2 billion it paid for Nest was by no means an inconsequential sum. Google probably wouldn't lose sleep if one of its smaller (\$50-500 million) acquisitions had to be written off, but Nest is a biggy.

There is certainly some money to be made from selling smart home gadgets, but Google is probably more interested in Nest because of its ability to gather vast amounts of



PROJECT X
Google X turns out technologies aimed at bridging the gap between the real world and science fiction, such as the Google Glass augmented reality headset (above) and a smart context lens that uses tears to measure blood sugar levels.



BABY I CAN'T DRIVE MY CAR

Is Google's self-driving car, another project of Google X, a major innovation aimed at helping the consumer—or the first glimpse of how the search company plans to expand into every corner of your personal life?

information. Some might say that Google's forte is in processing vast amounts of data (Web crawling, tracking cookies, advertising spends), and turning it into valuable services and information. Imagine if every home in the U.S. had a Nest thermostat that reported usage patterns back to Google. If Google could process that data into usable analytics about how we heat our homes, it could be worth billions to the right companies.

It's naïve to think that Google will stick with just the Learning Thermostat and Protect, too. I'd be surprised if Nest isn't working on some solution to turn the dumb devices in our homes into smart devices that report their energy usage to a central hub. You can envision some kind of slim-line Nest plug, which then lets other devices be plugged into it. This Nest plug would monitor those devices' energy usage and connect via Wi-Fi to a central hub you could log into remotely to see how much energy your home is currently using—and, of course, you'd also be able to turn off plugs. Such a system could include timers and automation, too—maybe you set a space heater to turn on an hour before you get home, or maybe your Learning Thermostat, which has already determined that you like your study to be warm at a specific time, turns the heater on for you.

With this kind of data, Google would know almost everything about our lives—which it could then easily turn into money, either via existing channels, such as targeted advertising, or by selling or using the information in novel ways (designing new gadgets/software, for example, or selling the information to broadcasters, publishers, and supermarkets).

Then there are the robots. By becoming the world's preeminent robotics company overnight, Google is definitely signaling that there will be Googlebots in our not-so-distant future. The easy route Google could take is industrial

robotics: robots that assemble cars and gadgets, Mars rovers, robots that debone hams at high speed, robots that automate data centers (pulling out dead hard drives, slotting in new servers as they're needed, and so on). The harder route is consumer robotics: the science-fictional robot that rolls stealthily around your house and asks, at just the right moment, "Sir, would you like some help with that?" This would be an entirely new and unproven sector, but the potential profits (and again, the massive amounts of data) from being the first company to popularize the in-home robot make the risk worthwhile. Such Googlebots would obviously tie in nicely with Google's other Nest-oriented home automation efforts, too.

More than just ruling your online world, then, the Google of the future might also be present throughout your home, office, and car. Imagine waking up to find that a Googlebot has already filled the bathtub and picked out suitable clothing for the day. You'll go downstairs, and because your wife was googling the day before about having hot flashes, perhaps your Learning Thermostat has already turned on the air conditioning. A Googlebot might tell you, over breakfast (which it prepared pursuant to your searches yesterday), the day's important news. Then you'll hop in your self-driving Google car and head to work.

So there's your answer: Yes, Google is a search company *for now*, but over the next few years it will become something far greater and much more *complete*. If you thought Google already had a firm grip on your life, and knew too much about your habits, desires, and aspirations, just wait until it powers everything in your life. Before long, it won't be the Google Search Engine anymore—it will just be the Google Engine, and despite that slight nagging feeling that we're doing something wrong, we'll continue to feed it with anything and everything. The rewards from having an almost human-like machine intelligence watch over us, and make our decisions for us, will be impossible to resist.



**Google is
a search
company
for now, but
over the next
few years it
will become
something
far greater.**



GET ORGANIZED

Tools for Better Meetings

**CONNECTED
TRAVELER**

Where to Find Free
Wi-Fi Anywhere

HEALTH

Our Favorite Online
Weight Loss and
Fitness Programs

COCO'S CORNER

Raising My Home's IQ

APPSCOUT

Our Favorite Apps
for March

Digital Life

WorldMags.net

Tools for Better Meetings

Whether you're hosting a conference call or you've been assigned to take minutes, there's a Web service or app to help you get the job done.

BY JILL DUFFY



Experts love to say that meetings kill productivity—and when they aren't needed or are poorly planned, they certainly do. But some meetings are necessary. They can seal new business deals. They can launch the team on productive new ventures. They can correct course on a project gone wrong. And they can facilitate camaraderie among collaborators who are unable to be together in the same space. When you absolutely must have a meeting, the right software will help you make the most of your time.

SCHEDULING

Microsoft Outlook probably comes to mind as the typical office software used to schedule meetings, but I find many of Outlook's features clunky and difficult to learn to use as intended. If all your meeting participants are skilled Outlook users, you can probably find a time to meet that works for everyone, reserve a conference room, and get that meeting on the calendar. I need something simpler, and I'm somewhat of an organizational-tools aficionado, so I can only imagine how others might feel about Outlook as a scheduling tool.

Doodle.com is my simple solution of choice. Doodle is a free website and service that makes scheduling as simple as creating a poll. You invite people to the poll (by sending around a URL, or inviting them directly from Doodle), and they select times they're available based on choices the poll creator provides. It's an efficiency dream come true, and definitely one of my favorite websites for doing things that Outlook should (but doesn't always) make easier.

VIRTUAL MEETING HOSTING

WebEx and **GoToMeeting** are two of the best-known virtual meeting services that, in my experience, tend to be used by people whose companies already have an account with that provider. Paid accounts of either are packed full of features, such as the ability to record meetings, chat with other participants, share everything happening on someone's computer screen, connect multiple webcams, and much more. GoToMeeting requires an installed application to use.

Webcams Zoom: 75% Now viewing Roberto's Screen

STRUCTURE OF KWP PROJECT DEVELOPMENT

Feasibility Studies

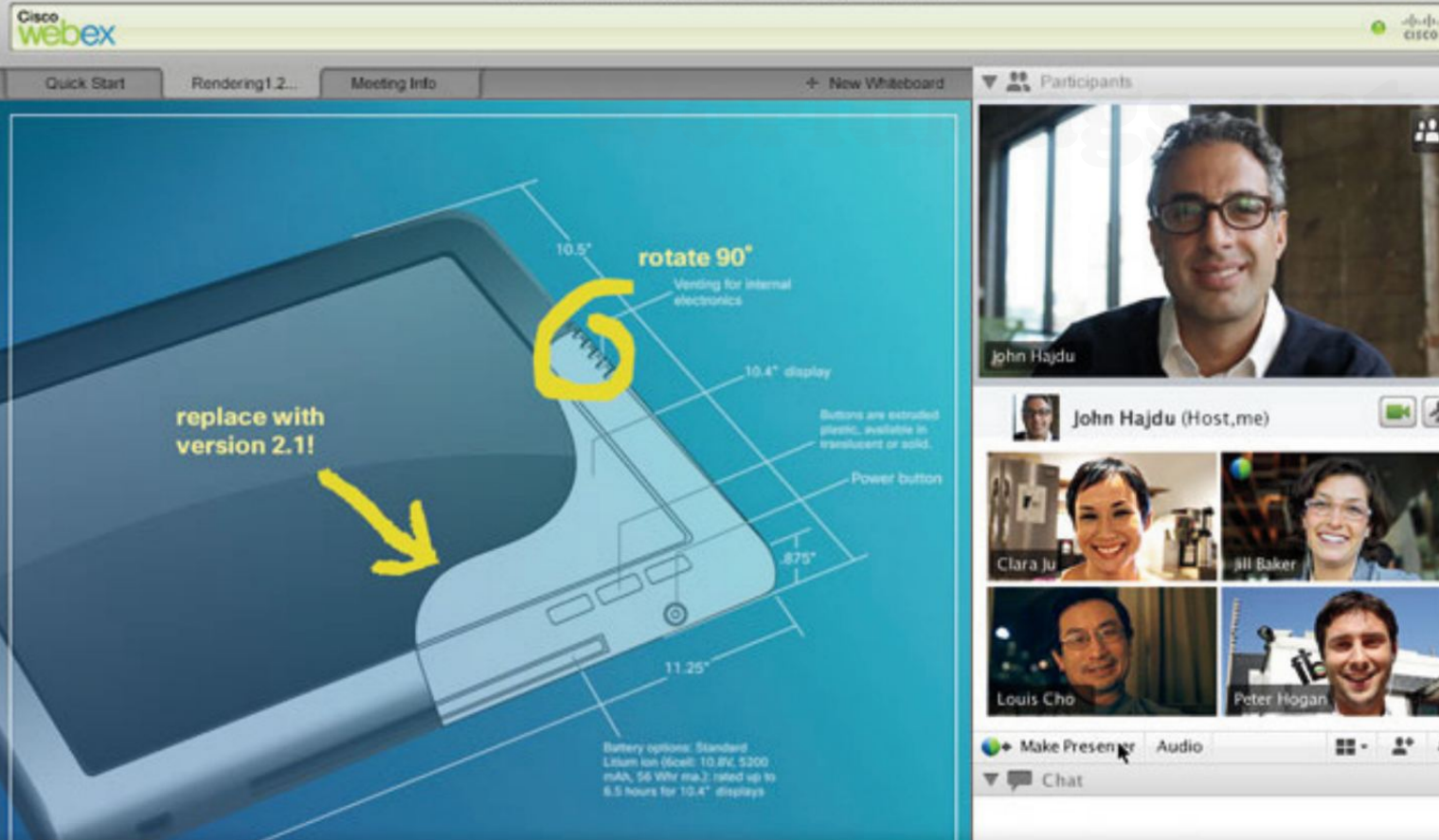
Construction Supervision

Detailed Engineering

WorldMags.net

HIGH-VOLUME SCREEN SHARING

GoToMeeting lets you arrange a meeting with as many as 25 participants, share your screen, use voice and video conferencing, and much more. A full-featured account will cost you, but you get a 30-day free trial.



FREE WITHOUT FREEDOM

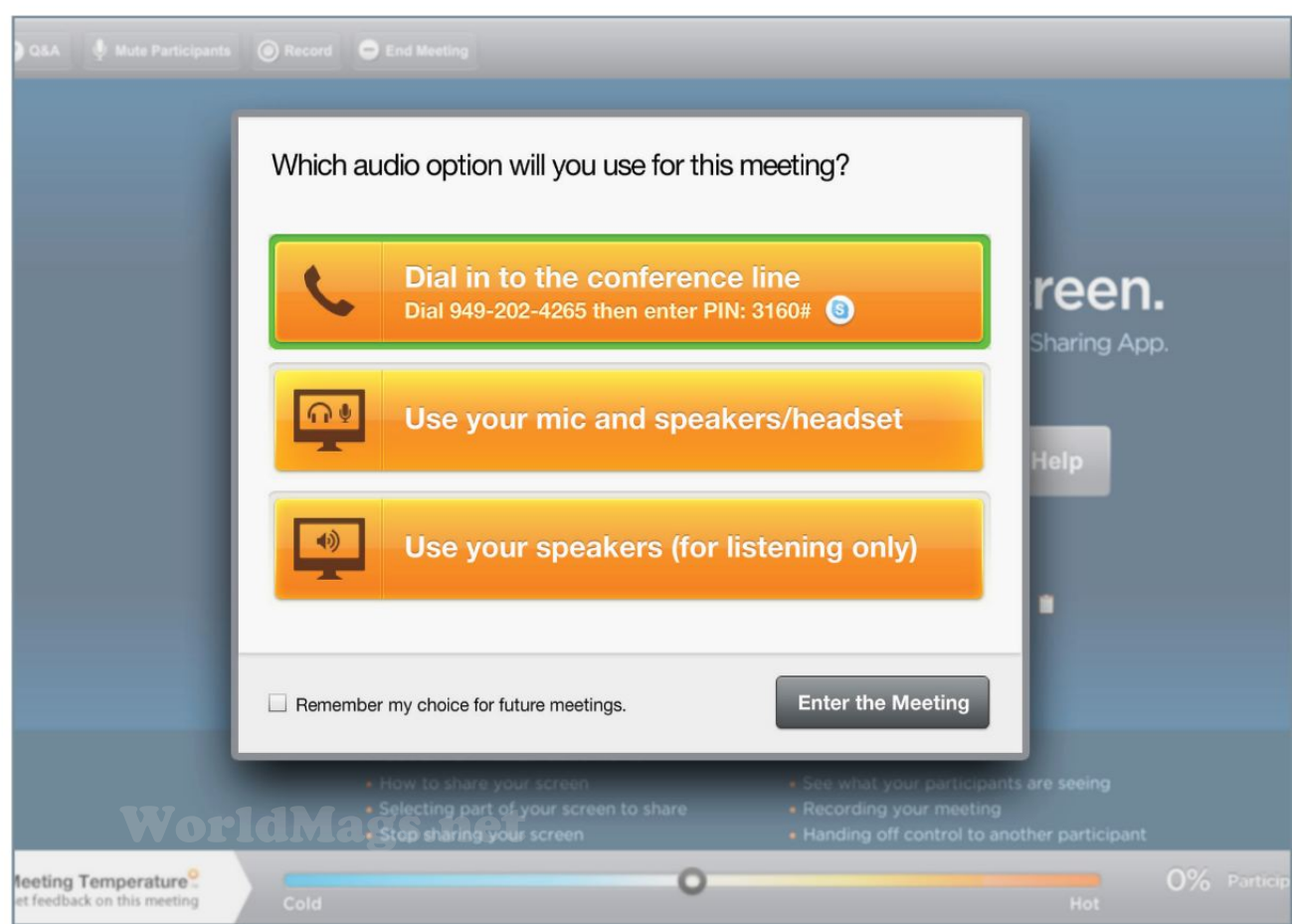
WebEx offers a free option, but it restricts many of its most powerful features. You're better off with a paid account if you want to take full advantage of its extensive collaborative capabilities.

Unlike GoToMeeting, WebEx offers a free account, but it comes with some tight limitations. For example, only one person can host meetings, and the maximum number of people in the meeting is three. Everyone in the meeting needs to use VoIP because phone dial-in is not supported, and the host can share her desktop, whiteboard, and documents, but not applications or anything running remotely. So if you're using either of those services, you'll probably want to go the paid route.

Join.me is another popular option for hosting virtual meetings. Like WebEx, it has a free option, but with loose constraints on the limitations. A free Join.me account accepts up to ten participants in a virtual meeting, and supports screen sharing and the ability to share control (so you can hand over some of the hosting duties to another participant).

MeetingBurner

is another option that runs in the browser with no installations required. With a free account (Pro accounts start at \$39.95 per month), you can hold meetings of up to ten people, but VoIP isn't supported—Skype is, however, and works right within the service.

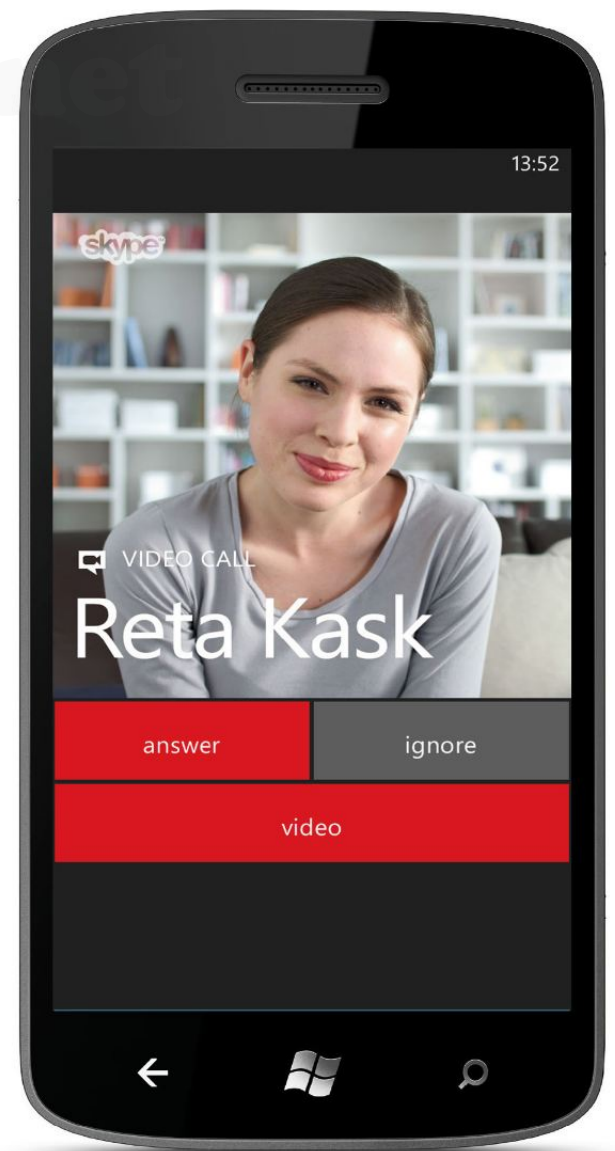


Skype isn't a bad tool for hosting certain kinds of meetings, but it's not always as reliable as some of the others. As with the other tools, a free Skype account comes with several limitations (no screen sharing is the big one for meetings, and video conferencing with only one other person), but it can be convenient when you need to quickly have an audio call with people who are spread out all over the world—and who already have Skype accounts.

COLLABORATING FACE TO FACE

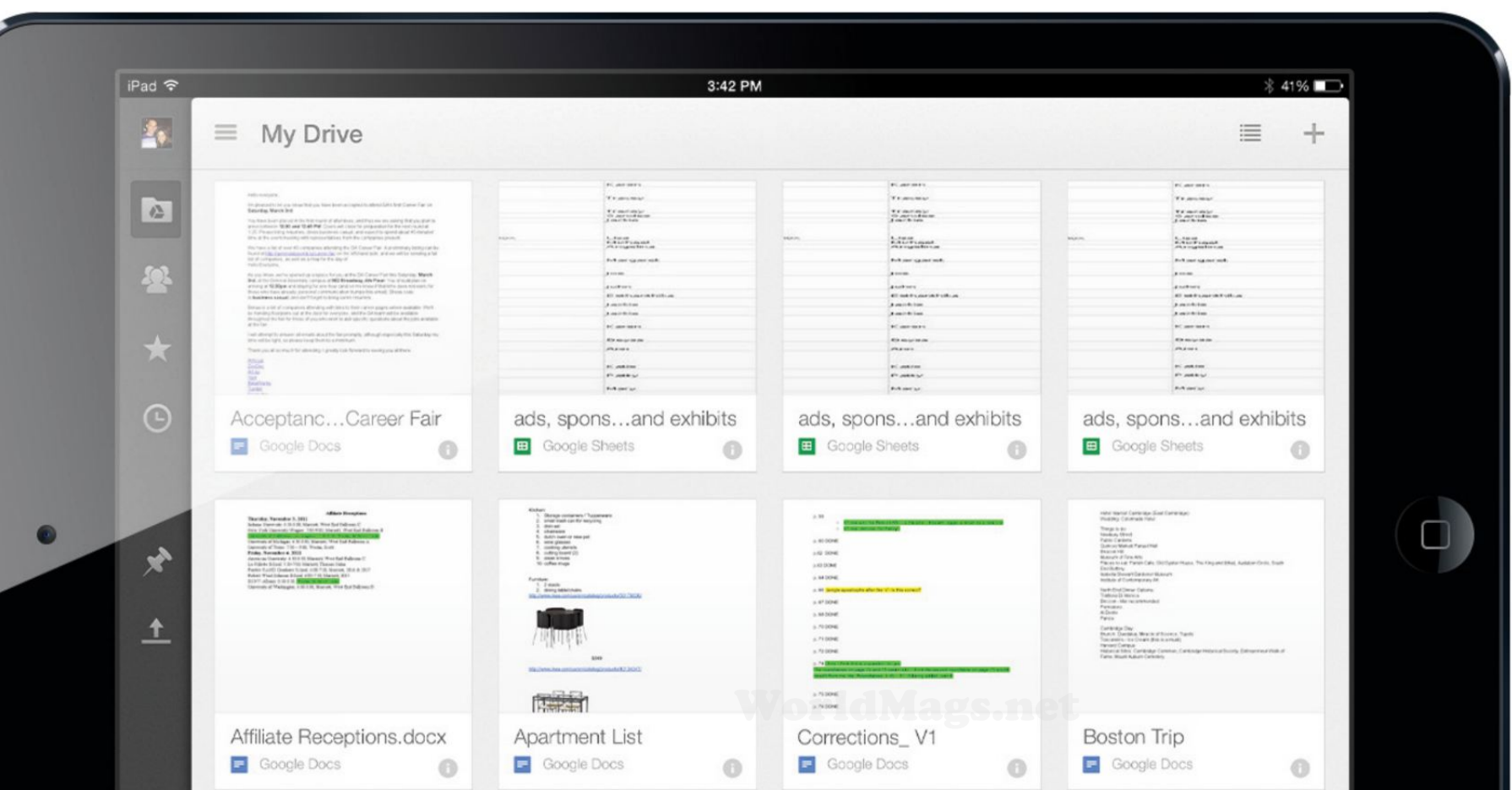
Most of the aforementioned webinar tools facilitate online virtual collaboration, but when everyone is in the same room and can talk face-to-face, I like to use tools that are less management-intensive.

The free **Google Drive** is handy in the office because multiple people can update documents in real time. You can see when someone else is editing or viewing the same document you have open. Google Drive isn't ideal on mobile devices, unfortunately. I still find it much easier to use on a laptop during meetings than via the Google Drive iPad app, for example.



MEET ANYWHERE

Mobile apps, such as Skype, make it possible for you to hold meetings whenever and wherever it's most convenient for you.



Asana has taken the collaboration world by storm with its excellent online collaborative task-management (and project-management) tool. It's a terrific service to use throughout your work cycles, and shows its value during meetings for creating new tasks, such as follow-up actions assigned to people at the end of a meeting.

TAKING NOTES

Evernote (free to \$45 per month for premium) is the 800-pound gorilla of note-taking, and I use it furiously during meetings. I love that it has built-in audio recording functionality that lets me capture the entire conversation in case I need to refer to it later. It's also superb on a mobile device for its camera feature. Snap a picture of a whiteboard, upload it to Evernote, and all the text in the picture is analyzed by OCR and becomes fully searchable.

Project

2014 Photography Plan and Budget
Wednesday, 5.2.2014 12:35 | Small Conference Room

minutes.io

Minute taker	Jackie Smith (Ja)		
Attendees	Jim (Ji), Mark (Ma), Brandon (Br), Cathy (Ca), Rachel (Ra),		

[others \(CC\)](#)
[About this meeting](#)

Type	Note	Owner	Due
DECISION	Monthly Photography Budget	ML	10.02.2014
TODO	Delegate research projects to team members	BR	07.02.2014
TODO	Schedule photo shoot dates	JS	10.02.2014
TODO	Hire new photo retoucher	JS	14.02.2014
TODO	Note	Initials	Date

Minutes.io, a free tool designed for the explicit purpose of taking meeting minutes, works in a browser but operates both online and offline. When you're asked to take official notes for a meeting unexpectedly, minutes.io launches quickly and works well, giving you a template for the task at hand.

Where to Find Free Wi-Fi Anywhere

BY MELISSA MELI

BY MELISSA MELI

Just because you're on the road doesn't mean you need to be off the grid. Here are places you can get connected, wherever you're traveling.



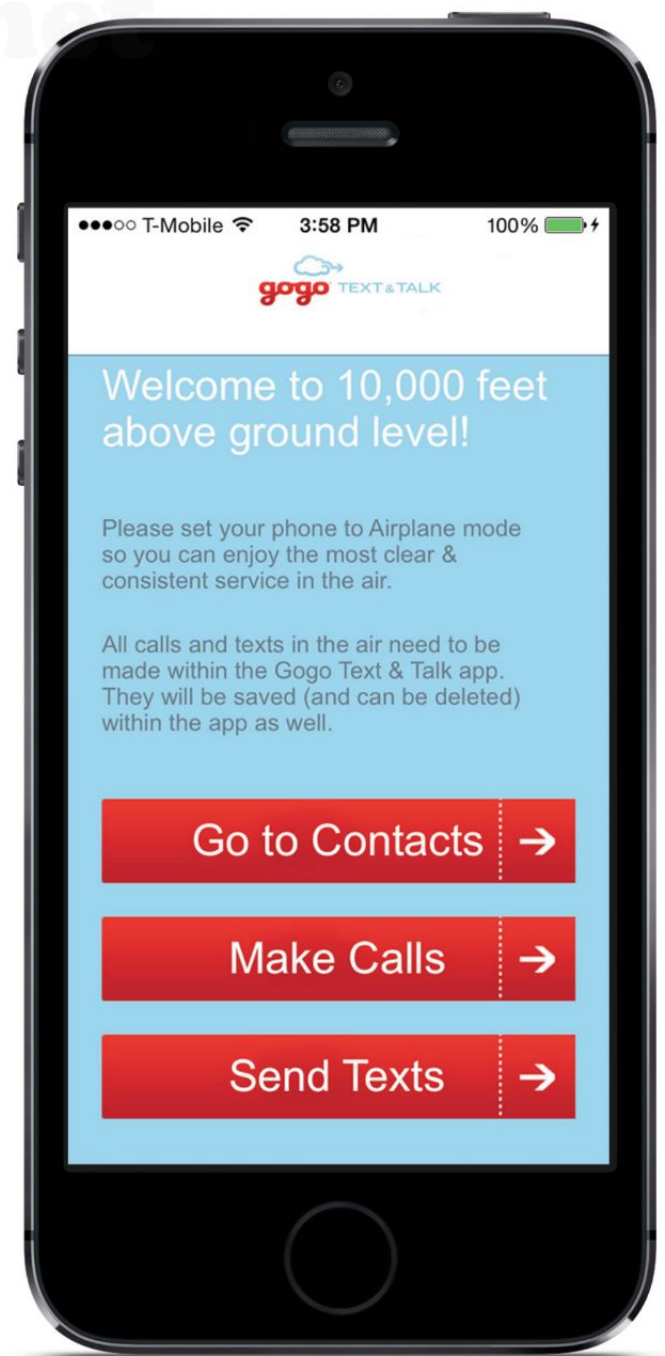
WorldMags.net

When you're on the road, the only thing you need to make you feel at home is an Internet connection. You can leave your bed, your pets, your family, and your prescription heart medication behind, but as long as you can find out what someone you went to grade school with but don't really remember thinks about how fat Kim Kardashian is or isn't—then, and only then, can you truly feel alive.

We all know where our local wireless spots are, but when you're visiting an unfamiliar place, you can rely on our guide to finding free Wi-Fi. Here you'll find places you can sit all day, where to get free airplane Wi-Fi, ways to find hidden wireless networks, how to get around those stupid coffee place timers that only give you 30 minutes of Internet, and more.

YOUR AIRPLANE/AIRPORT

Not into paying \$9.99 to use airplane Wi-Fi that can't even handle Netflix streaming? We don't blame you. Fortunately, a few tricks will help you avoid getting sky-hustled. Does your airplane have Gogo in-flight wireless? Most of them do. Before you pay up, make sure you take advantage of its new partnership with Allstate that gives you 30 free minutes of Internet in exchange for your contact information—provided you're flying on the weekend. Just do what I did and have the junk mail sent to your parents' house. (Sorry, Dad.) Second, some airlines let you use unlimited wireless on their flights. There's only one catch: You can only visit sponsored websites. If all else fails, just try to hit up one of the many airports that has free unlimited Wi-Fi, such as Boston or Dallas.



TRY BEFORE YOU BUY

In-flight Internet services, such as Gogo Inflight, may be expensive, but it's possible to get some or all of your connectivity for free.



MCDONALD'S

Sure, you could use the free Wi-Fi at Starbucks or Panera Bread, but why do that when you can spend all day sipping out of a \$1 large soda with unlimited refills? McDonald's locations all over the country boast free wireless, and that's not all. If you're traveling internationally, you can get free Wi-Fi at global McDonald's restaurants in places as far-flung as China, Australia, and even Canada. Obviously, you shouldn't waste your meals on McDonald's when you're traveling internationally, but a 30-minute stop to use the Internet might be worth it when you see your phone bill for international data. If you really hate McD's, you can also get free Wi-Fi at a Burger King, Denny's, or Wendy's.



A CHEAP(ISH) HOTEL

Expensive hotels have wireless charges. Cheap hotels don't. Why? Imagine you're going on a business trip your company has paid for. You are underpaid and overworked, not exactly anticipating having to be away from your spouse and your urchins. What do you care about saving your company \$10 on a wireless expense? No employer, not even Motel 6, is going to put their employees up in a Motel 6. The folks in charge will spring for something a little bit classier, and employers will happily pay the extra \$10 if it means you're able to stay connected for work purposes. That's how nicer hotels make their money. If you don't mind staying someplace normal, you big fancy pants, you can enjoy free wireless at Holiday Inn, Radisson, Best Western, Super 8, and plenty of others. Interestingly enough, some Motel 6 locations will make you pay for it.

YOUR CABLE COMPANY

What has Comcast done for you lately besides merge with Time Warner Cable? If you answered "it provided me with free Wi-Fi at more than 200,000 free hot spots nationwide," you deserve a gold star. Cable Internet providers Bright House Networks, Cox, Optimum, and Xfinity (Comcast) have teamed up to bring us the CableWiFi project, where, provided one of these companies is your Internet service provider, you can find free wireless near you. These hotspots are both indoor and outdoor, but you and I can agree that we'll only be visiting one of those places.

FREE WI-FI FINDER APP

JiWire's Free Wi-Fi Finder app is pretty self-explanatory. It uses your phone's GPS to show you on a map where free Wi-Fi is available in your area. It also lets you search for free Wi-Fi spots worldwide, so you can plan out your precious Internet time before heading to your family vacation. Togetherness is overrated, anyway. The app itself is free as well. The only problem with this is that if you aren't already in a Wi-Fi hotspot (and why would you be looking for Wi-Fi if you were?), you're going to have to use your phone's data in your search to use the Internet without using your phone's data. If a robot is ever chasing you, just explain that logic to it and its insides will melt and you can run away to safety.

TETHERING

Tethering lets you use your smartphone to get your tablet or laptop on the Internet. It's convenient, but it will drain your data plan and your phone's battery, plus it's a lot slower than Wi-Fi. Still, it's a lot better than tetherball, which nobody actually knows the rules for. Depending on your phone, you can connect via Wi-Fi, Bluetooth, or USB cable. AT&T and Verizon offer data plans that specifically include tethering for an additional cost. Always for an additional cost.

STIFF OUT HIDDEN NETWORKS

So you want to hang out at a joint like Best Buy instead of McDonald's? I guess that's up to you. You can use a few apps to find hidden Wi-Fi networks that aren't always visible, like the wireless Best Buy needs to keep its displays up and running for you to pretend to be interested in when you don't want to be approached by a 17-year-old in a blue polo who wants to sell you a champagne ultrabook. Programs like NetStumbler can help you find networks that your PC's built-in Wi-Fi network detector can't. Mac users, check out iStumbler or AirRadar 2.



LAND OF THE FREE

Track down free Wi-Fi wherever it may be nearby using JiWire's Free Wi-Fi finder app.

JOIN A LOYALTY CLUB

Pledge your false loyalty to a conveniently located lodging or food conglomerate and you'll get some of that sweet and tangy Internet nectar. Hotels like Kimpton and Omni are places to start. Even if you stay there one time, it's worth filling out a form to get the free Internet. Fill out the form before you get there, though—you need Internet to get Internet, buddy. Just make sure you protect yourself, because they are going to spam you with Photoshopped continental breakfast pics 24/7. Why not sign up using your parents' email address instead? They already get your Allstate mail.

MAC SPOOFING

How does Panera Bread know I've been connected to the Internet for more than 30 minutes during peak lunch hours? I just spent \$92 on artisanal leafy greens plucked from an anti-cruelty, organic garden when I'm just going to get hungry in an hour and go to McDonald's anyway, and now you won't let me surf your Internet? Rude. Fortunately for people who love eating and typing, there's a way to get around these Wi-Fi time limits. By spoofing your MAC address, you can appear as a new computer. Panera (or wherever you want to go with a time limit) thinks you're just starting to use the Internet, and you can go about your business. Everybody wins. There are plenty of online tutorials out there to teach you how to do this in no time.

BUS/TRAIN

Too good for mass ground transport? Maybe you'll change your tune once you realize a lot of trains and buses offer free Wi-Fi. Amtrak has Wi-Fi on some of its trains, and you'll even find desk space in different cars where you can spread your work out. Plus, unlike most planes, they actually have electrical outlets. This sounds way better than trying to balance a laptop and a plastic cup full of wine on your tray table. Plus, this way, you'll be exposed to the many unique experiences that trains and buses have to offer. For example: Ever loan your cell phone to your seatmate, who just got out of prison and needs to call his mom to pick him up? You don't get that on an airplane, folks.



The Top Online Weight Loss and Fitness Programs

BY KARA KAMENEC



As the saying goes, there's no wrong time to do the right thing—for your body, that is. Fitness and dieting regimes have grown into lucrative online industries, and a vast number of online weight loss platforms, apps, and digital trackers have resulted. These days, diet and exercise go far beyond one's individual routine. Getting and staying healthy is now a way of life that's more convenient, popular, and varied than ever before. If living healthier is one of your goals this spring, this collection of the top online weight loss programs will help get you on the right track.

WEIGHT LOSS

The screenshot shows the SparkPeople website interface. At the top, there's a navigation bar with links for New Mail, Help, Tell Friends, and Log Out. Below this is a search bar and a motivational banner. The main navigation menu includes START, MY TRACKERS, ARTICLES & VIDEOS, COMMUNITY, SITE GUIDE, and SHOP. The 'Start' section welcomes the user KARANICOLA and provides links to Account and E-Mail Preferences. A sidebar on the left shows 'TODAY'S SPARKPOINTS' as 0, with a 'GIVE POINTS' button and a 'Spin the SparkPoints Wheel' option. The main content area is titled 'You are enough.' and features a 'STEP 1 Track Your Progress' section. This section includes a 'Track Food' and 'Track Fitness' area with a table for 'Calories In & Out' showing a base goal of 1690-2040, plus fitness tracked (+0), minus eaten today (-0), and equals calories remaining today (1690-2040). It also has a 'Track Weight' section showing 0 pounds lost yet, with a goal to go from 130 to 130 by 1/21/2015. A 'More Tracking' section on the right allows tracking progress for up to six healthy habits, including consuming at least 8 cups of water per day, eating at least 5 fruits/veggies per day, mood, and getting 8 hours of sleep per day. At the bottom, there's a 'New Member Welcome Guide' section with a progress bar at 0% complete and a goal of 500 points when complete.

Calories In & Out	
Base Goal (no fitness)	1690 - 2040
Plus Fitness Tracked	+ 0
Minus Eaten Today	- 0
Equals Calories Remaining Today	1690 - 2040

Track Weight	
0 Pounds Lost (yet!)	Goal to go from 130 to 130 by 1/21/2015, Last weigh-in 130

SparkPeople

SparkPages features a complete online weight loss and fitness platform called SparkPeople (sparkpeople.com) that has tracking for food, fitness, and weight. Once logged in to the system, you have access to a host of tracking tools, guides, community boards, and other motivational material. The system tracks based on user-inputted goals and rewards with points once challenges are complete. Using the trackers you can also create reports and personal goal planners. The site also features community features such as the option to create a SparkPeople profile, daily performance posts to the SparkPeople community and to Facebook, and the option to join groups, called SparkTeams.

The SparkPeople sign-up process begins with an easy-to-follow three-step platform in which you set your goals, input health conditions and preferences, and connect via social media on Pinterest and Facebook. Online preferences include 25 health interests and conditions ranging from skin problems to emotional stress, and provide for eating preferences such as low-sodium and no-pork diet plans. At the end of the sign-up you have the option create a personalized SparkPage that is essentially an online profile page for your weight loss goals and comes complete with a page title, introductory text, goals and interests (such as to run a 5K), profile picture, and commenting ability. For those looking for more privacy, the SparkPage feature can be skipped.

Find a Meeting | Find us on: [f](#) [t](#) [v](#) [p](#) | Invite a Friend | Account Settings | Help | [LOG OUT](#)

online

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Home > Food & Recipes

Recipes

RECIPE OF THE DAY
Lentil and Black Bean Chili

Track +

6 PointsPlus meals

Tags: 8 Servings, Beans, Dinner, Easy, Gluten Free
★★★★★ REVIEWS (611) | [SHARE](#)

Find a recipe by:
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Whip up something with the ingredients you already have

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10 10

A Healthy SPLASH

Weight Watchers Online

The Weight Watchers program has gone digital and become much more comprehensive than a simple support group program for weight loss. Weight Watchers Online (weightwatchers.com) features eTools, which include food and activity tracking, a bar code scanner for smarter shopping, and a Kitchen Companion for healthier cooking—all accessible from a PC or mobile device for continual weight loss support. Healthy eating is further made convenient with a database of 161,000 food options and 3,000 recipes.

The comprehensive digital tools display your progress as charts and graphs, and come complete with fitness demo videos and interactive food cheat sheets. The Weight Watchers app helps with tracking as well, as it encourages members to Snap & Track—snap a picture of the food you eat, even when out to eat or at work, so you can remember to track it later.

Welcome User (Log Out) | My Account | My Inbox (3) | Help | Contact Us | Gift Cards

Nutrisystem®  members

My Program | Member Market | Connect & Share | Recipe Center | Inform & Inspire

My Program Home | Log My Journal | Progress Report | My Fitness | Exercise Plans | Nutribears | Buddy Bucks

Tools & Trackers

DAILY WEEKLY MONTHLY

LOG FOOD LOG WATER LOG EXERCISE LOG WEIGHT LOG MEASUREMENTS

Quick Tip

Take your measurements; every "inch" in the right direction matters.

Weekly Core Companion

Get personalized guidance and support for each stage of your journey

Week 1 Week 2 Week 3 Week 4 Week 5 Week 6 Week 7 Week 8 Week 9 Week 10

WEEK 9

Need-To-Know Info

There's much more to your success than simply a number on a scale

Goal Game Plan

Track your meals, water and exercise and shoot for 100% all week

Week 9 Wrap-up

Seeing Past The Scale

Main Message:

Helpful Hints for Week 9

Say Cheese

Share photos of your progress by posting them to your My Page

All About Me

My Goals

Long-Term Goals:

- Lose 55 lbs.
- Learn healthy eating habits

Short-Term Goals:

- Work out at least 3 times a week
- Drink more water

[Edit my goals](#)

My Awards

 Congrats! You've reached another milestone to receive the 20 lb.* Commitment Bear.

MyWeight Loss Progress

STARTING WEIGHT **200 lbs.**

Nutrisystem

Best known as a mail-order food service, Nutrisystem (nutrisystem.com) also features an extensive member community with online tools to complement any mail-order meals program. The Nutrisystem Members platform lets you personalize your diet journey to weight loss and offers food tracking and social support. Membership plans to choose from include Guest, Registered (which grants you access to about half of the features), and the full VIP membership.

VIP members have access to all social features, such as the option to add friends to your network and participate in discussion boards, blogs, and chats; and all tracking features, such as an online weight and membership log, personal journal, My Daily 3 activity plans, and personalized progress reports. The user backend also offers a comprehensive online Recipe Center, complete with a dining out guide, and an Inform and Inspire section that contains motivational fun facts, images, articles, success stories, and more.

Jenny CRAIG THIS IS REAL LIFE. THIS IS REAL CHANGE. (866) 706-4042

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TOOLS PLAN OVERVIEW

Plan: The Key to Your Success

Have a Question? Email Us

FEB 9 - 15 FEBRUARY 9, 2014 CREATE NEW PLAN Utilities ADD JENNY ITEMS TO CART

	Sunday February 9	Monday February 10	Tuesday February 11	Wednesday February 12	Thursday February 13	Friday February 14	Saturday February 15
Cal Total / Goal	1247 / 1200	1217 / 1200	1229 / 1200	1209 / 1500	1249 / 1500	1237 / 1500	1249 / 1500
Meals							
Breakfast	1 Barscotti with Cranberries and Almonds 1 serving(s) Fruit 1 cup(s) Milk, nonfat	1 Florentine Breakfast Pizzas 1 serving(s) Fruit 1 cup(s) Milk, nonfat	1 Multi-Grain Hoops Cereal 1 serving(s) Fruit 1 cup(s) Milk, nonfat	1 Mixed Berry Bar 1 serving(s) Fruit 1 cup(s) Milk, nonfat	1 Breakfast Scramble 1 serving(s) Fruit 1 cup(s) Milk, nonfat	1 Blueberry Mini Loaf 1 cup(s) Milk, nonfat	1 Frosted Oats Cereal 1 serving(s) Fruit 1 cup(s) Milk, nonfat
Morning Snack	1 Peanut Butter Chocolate Anytime Bar	1 Peanut Butter Chocolate Anytime Bar	1 Peanut Butter Chocolate Anytime Bar	1 Peanut Butter Chocolate Anytime Bar	1 Peanut Butter Chocolate Anytime Bar	1 Peanut Butter Chocolate Anytime Bar	1 Peanut Butter Chocolate Anytime Bar
Lunch	1 Chicken Sandwich 1 Balsamic Dressing	1 Broccoli & Cheese Potato 1 Ranch Dressing	1 Southwestern Chicken with Rice 1 Balsamic	1 Beef Chow Mein 1 Ranch Dressing	1 Stuffed Shells 1 Balsamic Dressing 1 cup(s) Garden	1 Tuna Salad Kit 1 Ranch Dressing 1 cup(s) Garden	1 Creamy Chicken & Corn Chowder 1 Balsamic

Jenny Craig

Jenny Craig (jennycraig.com) is well known for one-on-one weight loss support, and the company has expanded this personalized diet support to the virtual sector with a variety of member-only online tools and resources. Membership is a standard \$29.99 per month plus the cost of food, and you get your first month free. Members receive a personalized dashboard with customized content and the ability to plan and track meals, record activities, and monitor results. To integrate some of the one-on-one attention online, members receive personal messages from Jenny and congratulatory messages when they accomplish key goals and meet weight loss milestones.

Online monitoring options include tracking of weight loss progress, calories consumed, calories burned, and body measurements. For tracking accuracy members must record their daily weight, as well as all calories consumed and burned each day. Conveniently, the food from your custom plan is automatically added to your tracker, and tracking is as simple as checking off what you actually ate. The remaining area of the dashboard is designed much like a drag-and-drop webpage CMS. Members may add, move, and remove different “modules” such as calendars, featured articles, and featured recipes.


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[Community](#)
[Challenges](#)
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[Forums](#)
[Settings](#)
[Apps & Devices](#)
[Upgrade](#)
[Sign out](#)
0

 Add Food
  Add Exercise

Budget	Food	Exercise	Net	Under
1,431	1,065	-542	523	908

Breakfast: 429

	Bacon, Cooked	2 Pieces	87	
	Egg, Scrambled, Large	2 Each	204	
	Brussels Sprouts	1/2 Cup	19	
	Oil, Olive, Extra Virgin	1 Tablespoon	120	

Lunch: 179

	Turkey, Meatballs, Fully Cked, Rfgd	3 Each	150	
	Kale, Chinese, Cooked	1 1/2 Cups	29	

Dinner: 179

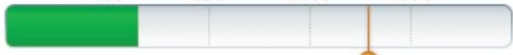
	Turkey, Meatballs, Fully Cked, Rfgd	3 Each	150	
	Kale, Chinese, Cooked	1 1/2 Cups	29	

Snacks: 277

	Apple, Small	1 Each	77	
	Peanut Butter, Natural, Creamy	2 Tablespoons	200	

Monday Feb 17, 2014

My Day
 My Week



Daily calorie budget 1,431
Food calories consumed 1,065
Exercise calories burned 542
Net calories so far today 523

I was 908 calories under my daily budget

Lose It! The App
 

Lose It!
THE APP
 Get Lose It! for the Android on the Marketplace. It's Free!
[Download the App](#)

Weight

 0 lbs. so far

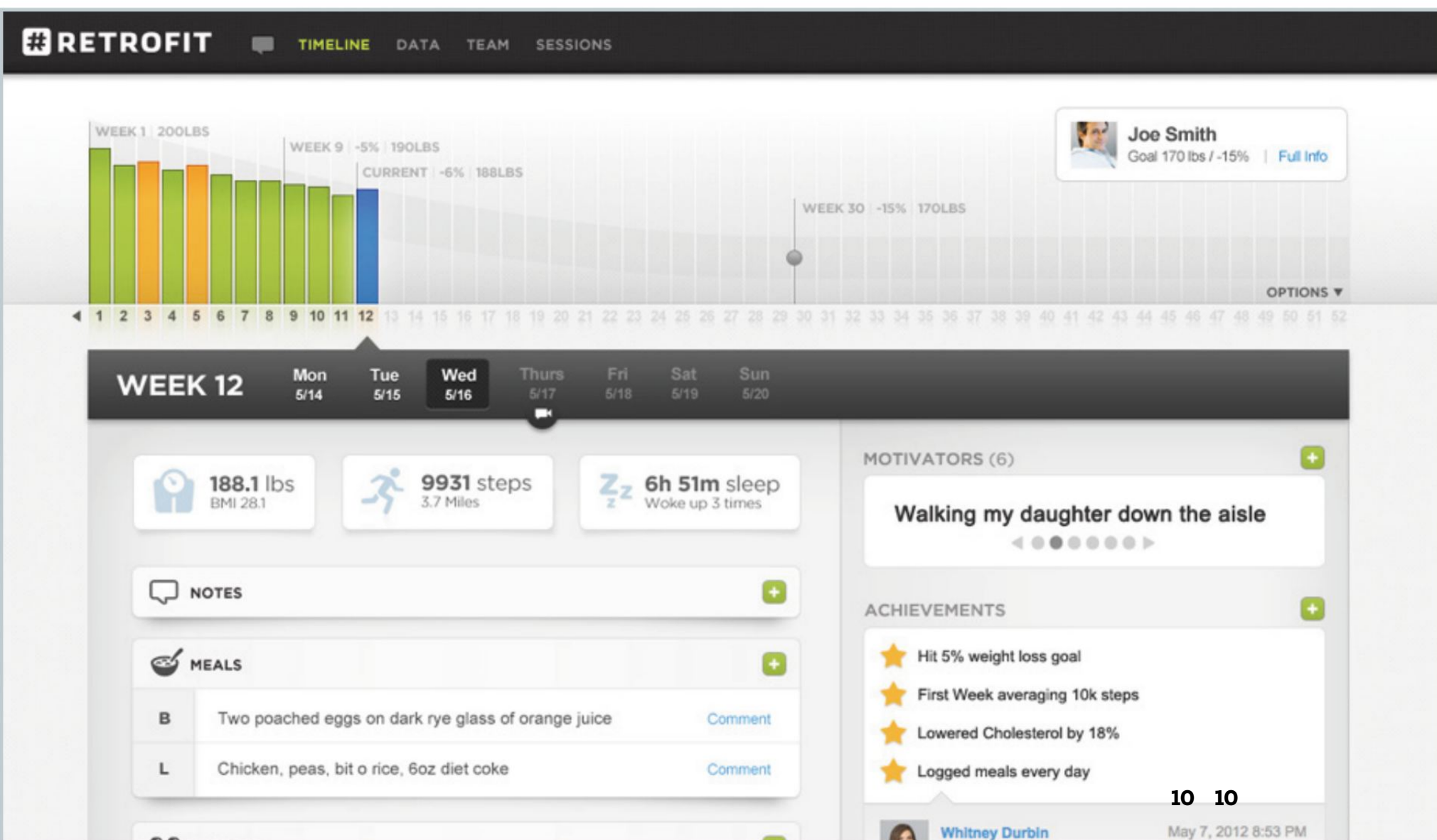
You'll reach your goal of losing 10 lbs. on Apr 29, 2014

10 10

Lose It!

Lose It! (loseit.com) is an app and online platform that provides a connected and personalized weight loss experience. Users set Wellness Goals including weight loss, sleep, exercise, measurements, nutrition, and more. With the comparable app, tracking is made easy and convenient and can be done on the go. Foods can be added for tracking through the program's digital food database, which includes individual items and a variety of brands, or by scanning bar codes with your phone camera.

The dashboard features comprehensive reporting options such as daily and weekly summaries, over/under calories, food calorie report, and nutrients. Lose It! offers a free basic plan that features food and exercise logging, goal setting and tracking, and motivational incentives such as digital social support and achievement badges. The premium plan includes all features of the basic version, plus more complete goal tracking options, such as blood glucose and blood pressure, syncing capabilities with additional apps and devices, private and public community groups, and additional social motivation with individual and team challenges.



Retrofit

Retrofit (retrofitme.com) offers an innovative new approach to weight loss, letting you use the Internet to connect to personal weight loss experts. Digitally providing a personal weight loss coach, Retrofit focuses on one-on-one motivation and user accountability for results achieved. The program lets you talk through individual challenges and strategies, out loud and with another live person who is focused on your weight loss success.

The company approaches weight loss and maintenance from the philosophy that mindset and motivation are even more important than nutrition and fitness. To track success, members receive a wireless Fitbit and scale that continually transmit data to Retrofit experts. As a new program, Retrofit has proved successful with 90 percent of clients losing weight, and the average Retrofit member reports losing as much as a pound a week.

JILLIAN
MICHAELS

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The Routine



READY TO GET RIPPED?

Watch 100's of Jillian's exclusive exercise videos, plus get a personal workout plan just for you!

START THE SOLUTION FREE

Customized just for you!

Weight lbs [START](#)

My Goal lbs

Height ft in

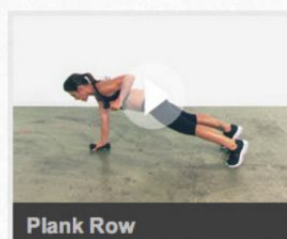
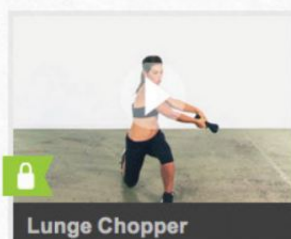
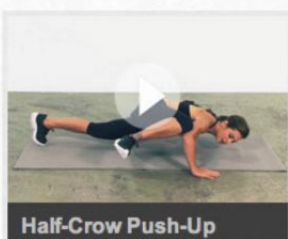
Age yrs

I am a... ☐ Woman ☐ Man

Your Email

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How big is your **2014** weight loss goal?

[5 - 25 lbs »](#)

[25 - 50 lbs »](#)

[50+ lbs »](#)

JILLIAN

10 10

Jillian Michaels

To register for the Jillian Michaels weight loss site (jillianmichaels.com) you simply enter your dimensions and answer one page of questions about your goals, problem areas, and barriers to success. You then receive a custom three-step weight loss plan based on your needs. Steps include Get Seriously Motivated, Boost Your Metabolism, Let's Kick Some Butt, and more.

Your plan comes complete with personalized tips and tricks, your daily caloric intake goal, and a beginner workout plan that dictates what days of the week you should complete circuit training, do cardio, or rest. Your beginner workout also explains details of the training and areas you should target each day, such as front-of-body full circuit training on Monday, back-of-body work on Tuesday, and so on. As you hover over each day of the week you'll find "Your Sample Plan," which displays five image suggestions of workouts that can be completed each day and lists the areas of the body that day's workout targets.



[SIGN IN](#) [REGISTER NOW](#)

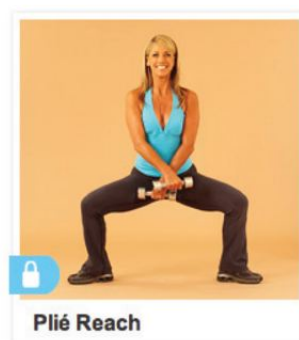
[Weight Loss Plan](#) | [Success Stories](#) | [About Denise](#) | [Store](#)

Exercises

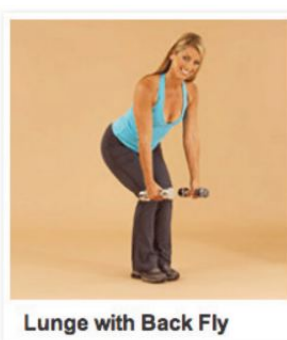


Get in Shape!

These easy-to-do moves will help you shed pounds, build strength, and get toned from head to toe.



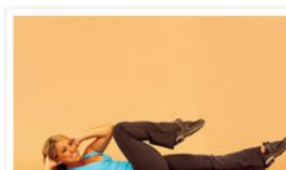
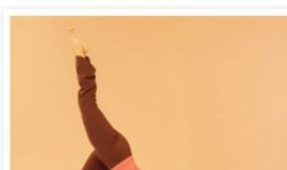
Plié Reach



Lunge with Back Fly



Triceps Chair Dip



FREE Success Plan

See how I can help YOU lose weight!

Weight lbs
My Goal lbs
Height ft in
Age yrs
I am a... ☐ Woman ☐ Man

Get Your FREE Plan!

We'll send you follow-up emails.



Get Denise's Newsletter!

Need help staying motivated? Get an email from Denise every day!

Sign Up

We'll send you a follow-up email



Cassandra Lost 10 10 lbs on Denise's

Denise Austin

Similar to JillianMichaels.com, Denise Austin (deniseaustin.com) is an online weight loss program heavily focused on fitness. Upon registration, users fill in measurements and weight loss goals, answer questions pertaining to weight loss goals and challenges such as “Do you tend to lose and re-gain weight?”, and check off any health conditions that may influence weight loss. A free custom “Success Plan” is then generated and users are prompted to sign up.

Membership includes exercises and workouts, recipes, an online community, an Ask Denise Q&A section, and online tools all accessible from the compatible Denise Austin iPhone App. Fourteen online tools are included such as a custom meal planner and fitness planner, journal and food log, nutritional fact finder, target heart rate calculator, and print-and-go shopping lists. Tracking tools are also available, and include a weight tracker, an inch tracker, and an activity calculator to tally calories burned for everything from exercises to ordinary daily activities.

Raising My Home's IQ

BY COCO ROCHA



WELCOME BACK, COCO ROCHA!

I'm a high fashion model living in New York and working internationally. When I started modeling almost ten years ago, very few top photographers used digital cameras and no one in the industry was blogging or tweeting. I became the first notable model to embrace blogging and social media, letting me break out of the mold of the mute model. Today I have an audience of nearly ten million people, who seem to be as excited to read my thoughts as to see my latest pictures. Admittedly, I'd rather buy a new tablet than a new pair of heels.

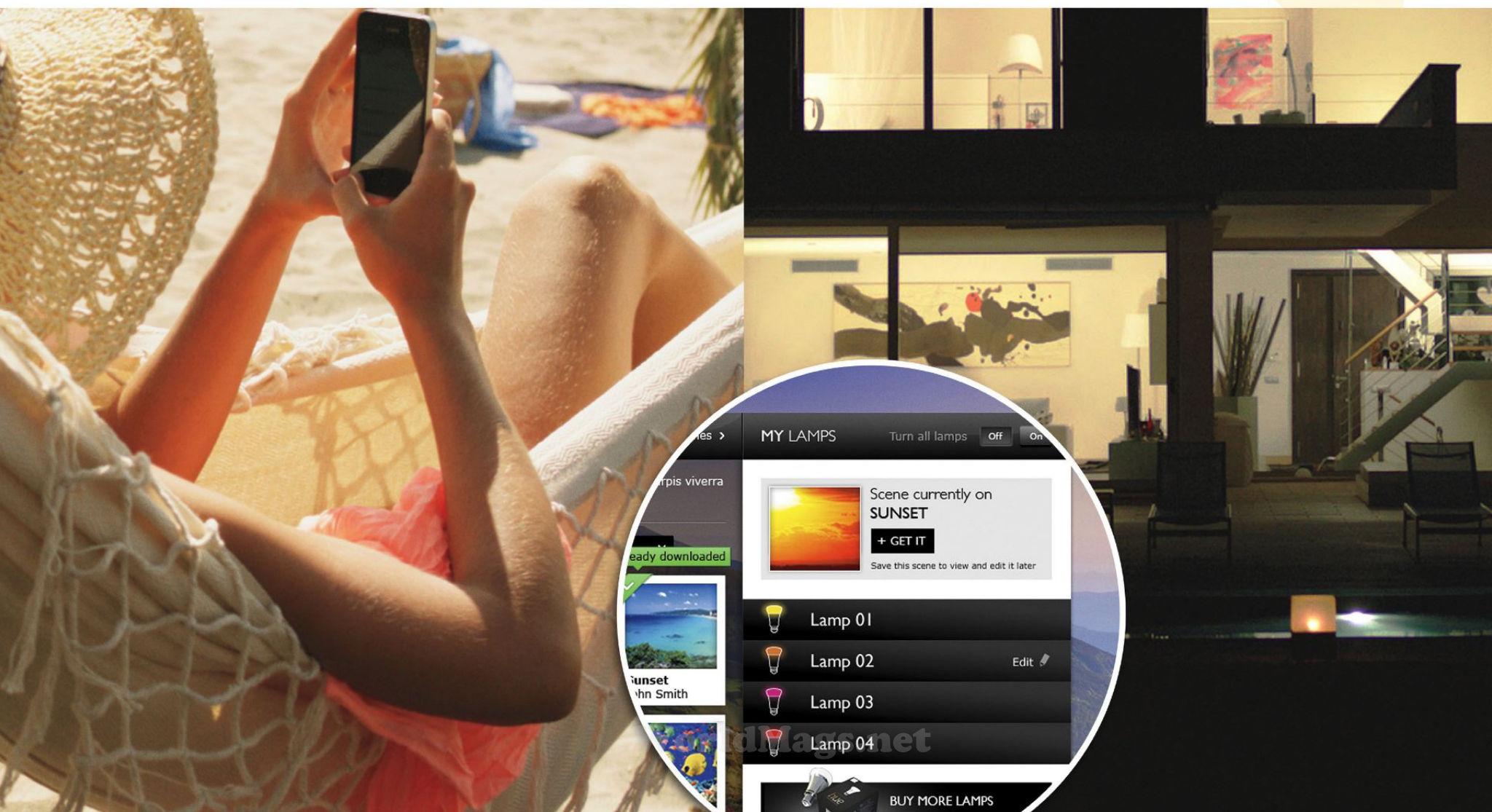
Having recently moved into an old stone farmhouse, my husband and I have been on a quest to give it a modern technological edge.

We started with a Sonos sound system. Sonos speakers all connect over Wi-Fi, letting you add as many as you want to the system without having to rip down walls or run ugly wiring around the house. Setting up the Sonos system could not have been easier; within a few minutes of unboxing I was blasting Cocteau Twins in every

room of the house. I'm especially happy with the living room surround sound. I have a Sonos Playbar under my TV that's linked to a superb Sonos subwoofer and left and right speakers behind the couch. The sound is epic and has given me a good incentive to never go to the movies again.

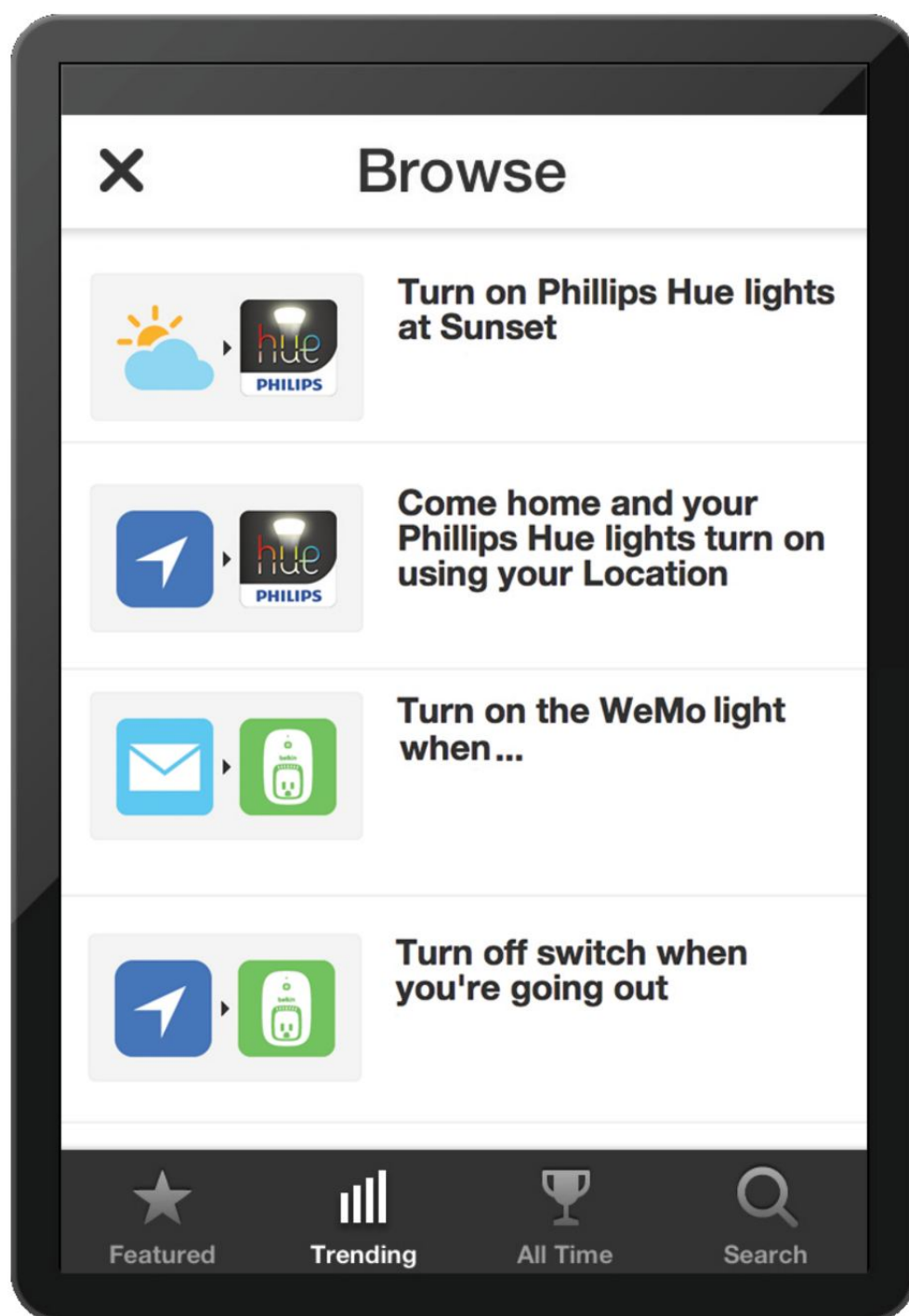
If I'm working in the garden I can take a speaker outside and play it. If I were having a full-on party I could out all the speakers. The flexibility Sonos offers is amazing.

In my quest to smarten up my house I've also installed a collection of Philips hue light bulbs. True, these Wi-Fi-enabled bulbs are expensive, but they're rated for an unbelievable 15 years (or 15,000 hours), and I can turn them on or off from any of my wireless devices. If that's not cool enough, I can also change the bulb to glow any color of the rainbow. Mood lighting has never been simpler. For a nice dinner I mimic candlelight. For my parties I can set them to strobe, flash colors, or any other combination I can envision.



Another product I'm experimenting with at home is the Belkin WeMo Switch, which lets you turn electronic devices on or off from anywhere. Like the Sonos Playbar and Philips hue, the WeMo Switch uses your existing Wi-Fi network to provide wireless control of TVs, stereos, fans, lamps, and more.

Using If This Then That (ifttt) to set up formulas to connect two unrelated Internet services, I've taken integration a step further. When my husband gets an email from me, his office light flashes on and off. When it's about to rain, the lights turn purple (*Purple Rain*, get it?). If the WeMo sensor detects motion in the front entry it tells ifttt to tell Philips hue to turn on all the lights downstairs. I also have the outdoor lights on timers to only turn on and off when the sun goes up and down each day of the year.



Our Favorite Apps



Windows Phone



iOS



iPhone



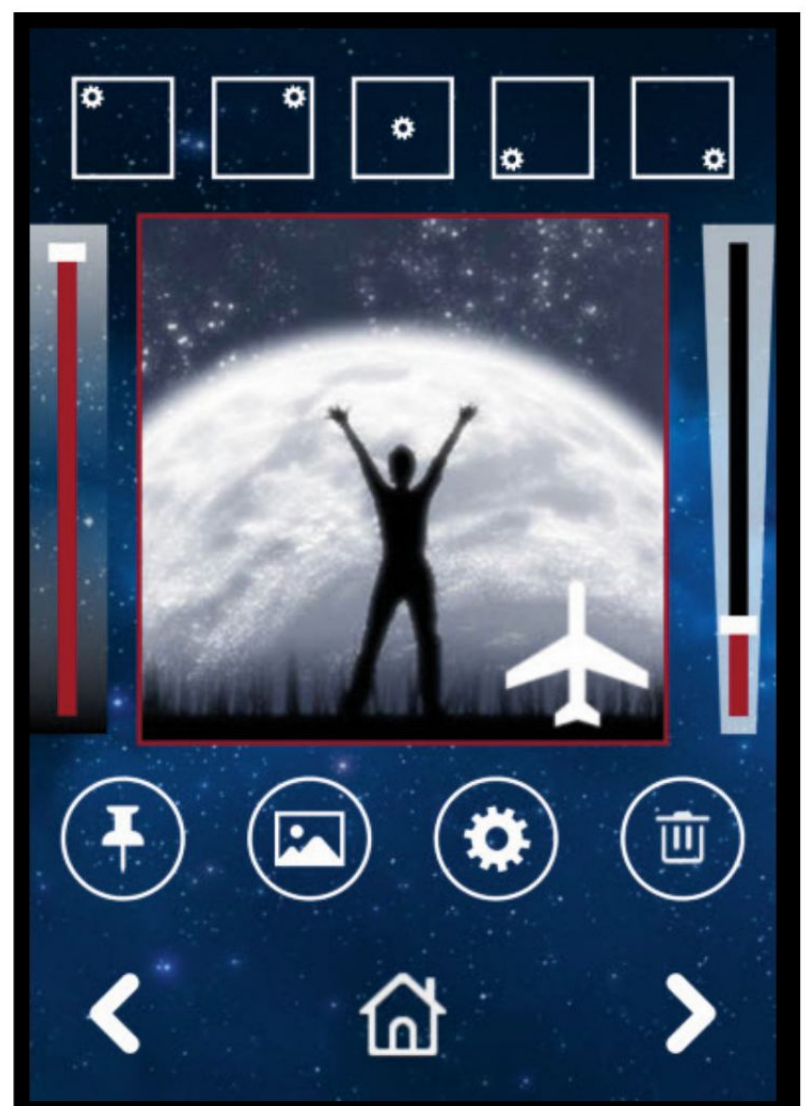
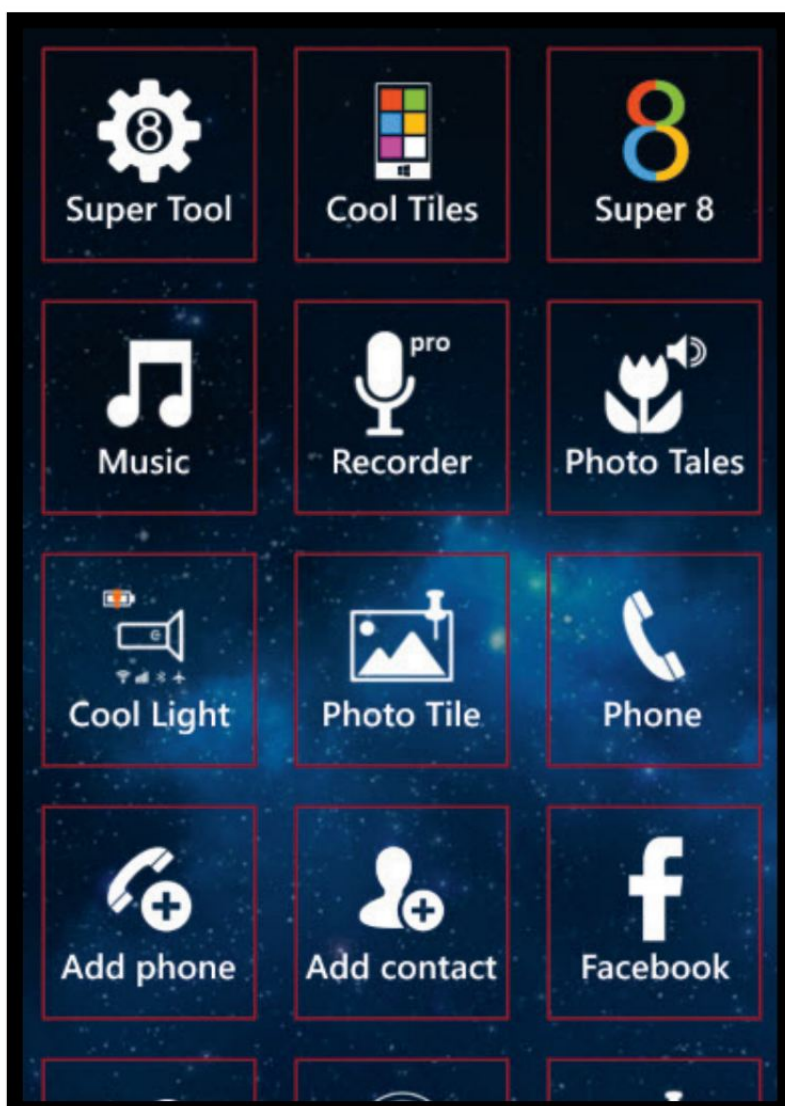
Android, iOS

Cool Tiles

Free



Windows Phone users tend to love its tile-filled home screen, but what if you want to control tiles' appearance beyond their size or color scheme? Cool Tiles lets you assign common settings and functions to dedicated tiles, and use your own images on them if you want. There's even an alternative user interface for Windows Phone that resembles other mobile OSes' smaller-button grids. Though the interface could be more intuitive and there's not much in the way of help, tinkerers owe it to themselves to download and install this free jack of many trades.



Our Favorite Apps



Windows Phone



iOS



iPhone



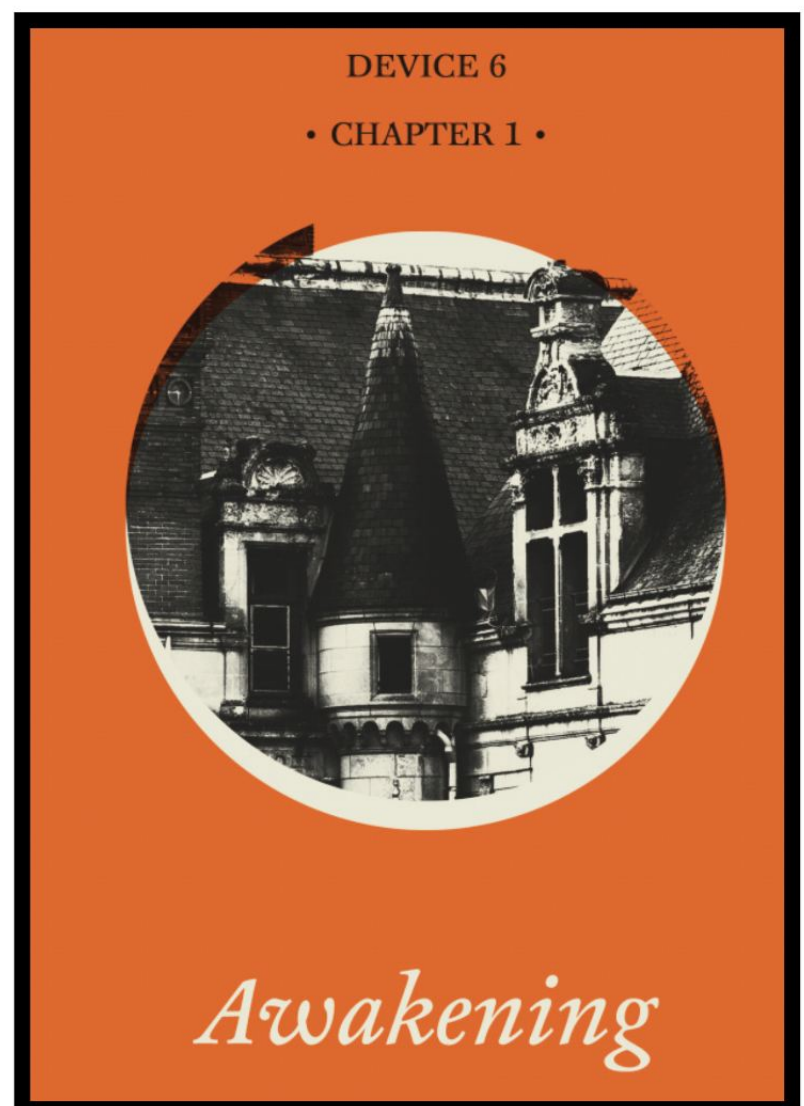
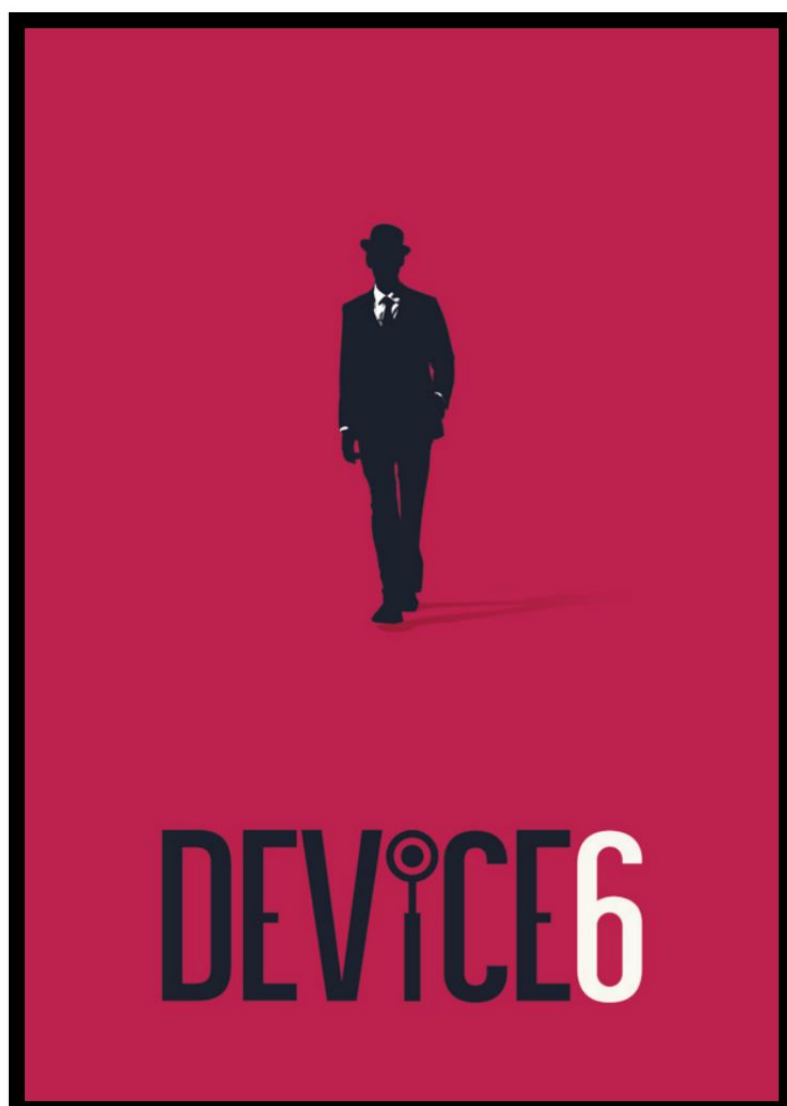
Android, iOS

Device 6

\$3.99



Developer Simogo scored last year with its game Year Walk, and now has released the just-as-good Device 6. This surreal journey, about a young woman who wakes confused and drugged in a mysterious castle, is an enhanced digital novel that draws its inspiration from 1960s mod spy stories and pays homage to *Vertigo* and *The Prisoner*. Moving images and sound enrich the environment and offer clues to the challenging puzzles. Device 6's linear design limits its replay value, but you'll be unsettled and thrilled by the time you spend with it.



Our Favorite Apps



Windows Phone



iOS



iPhone



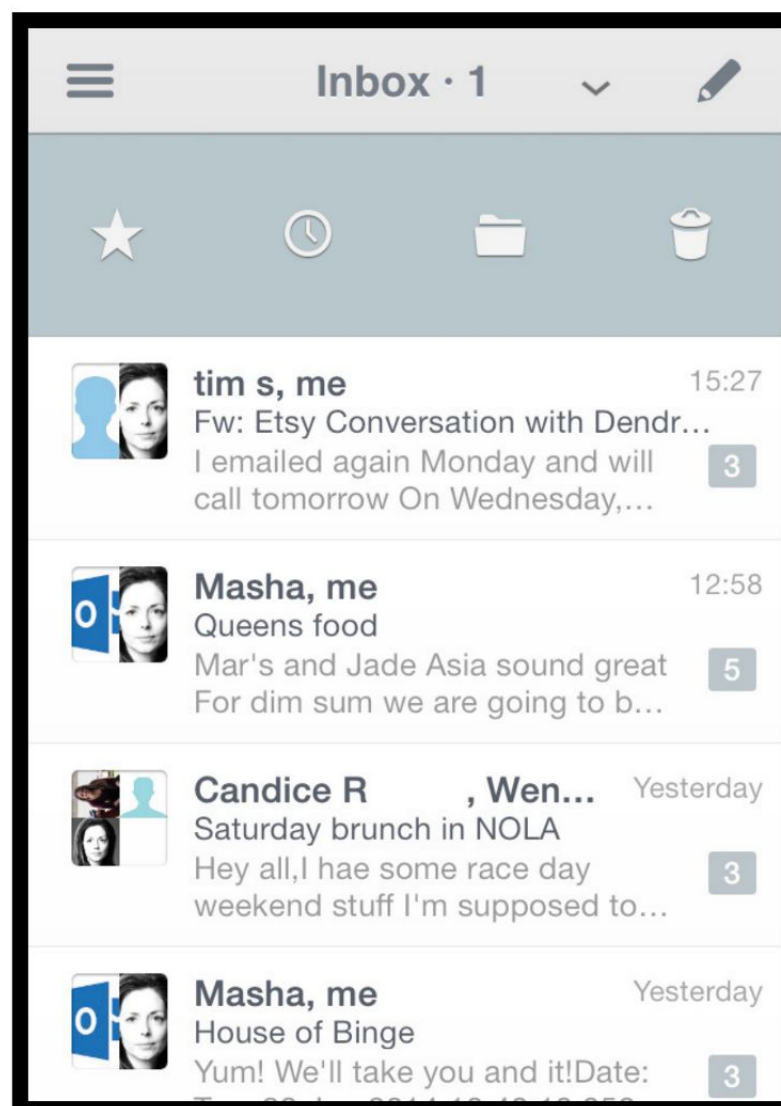
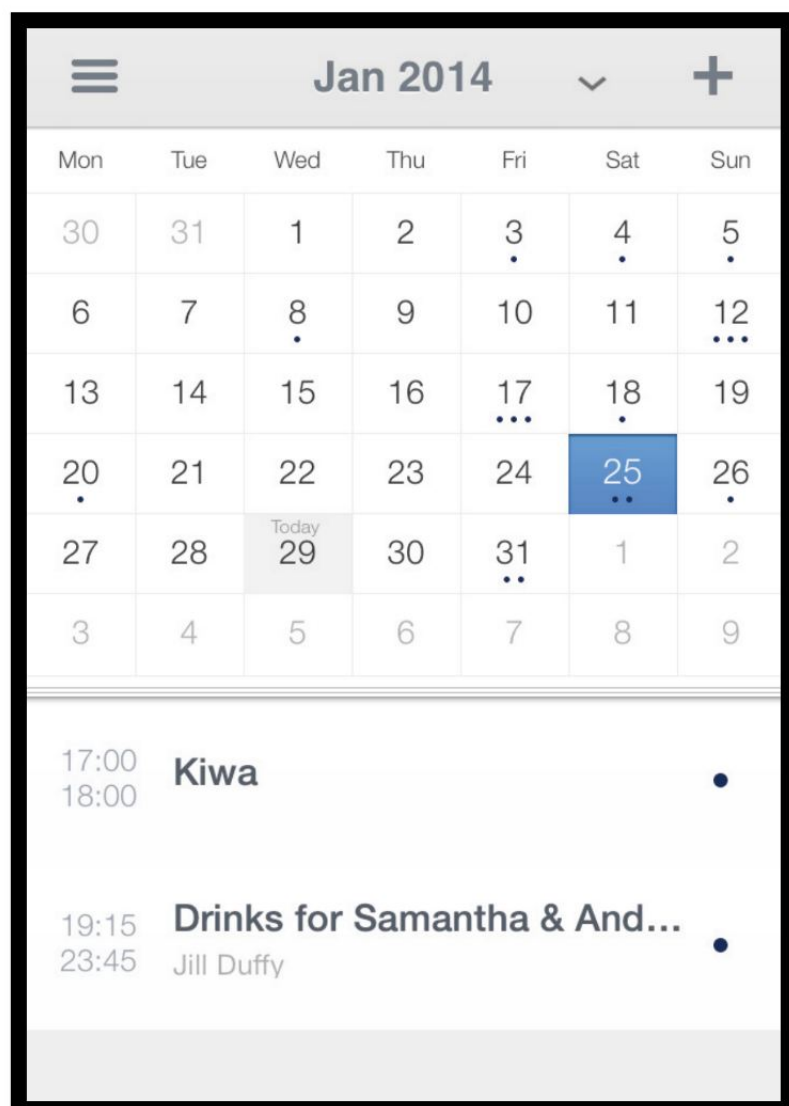
Android, iOS

Seed Mail

Free



Seed Mail doesn't shoot for the moon, but rather packages terrific design and a few sensible yet creative touches into one special email client app. It connects to multiple webmail and Exchange accounts to give you a unified view of all your messages, or you can view just one account at a time. Even better, it includes the related calendar and contact sessions of those email services. A chat-like summary of email threads and plug-in support for Box, Dropbox, and Evernote are excellent additional features. Speedy and gimmick-free, Seed Mail is a keeper.



Our Favorite Apps



Windows Phone



iOS



iPhone



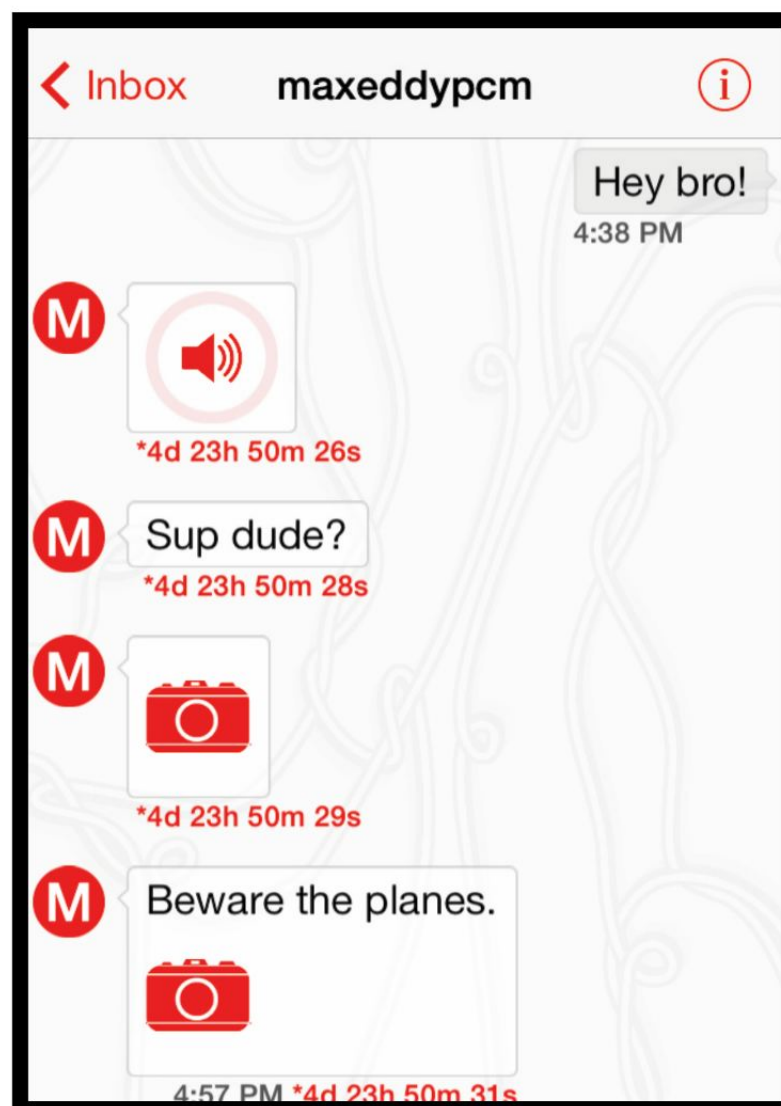
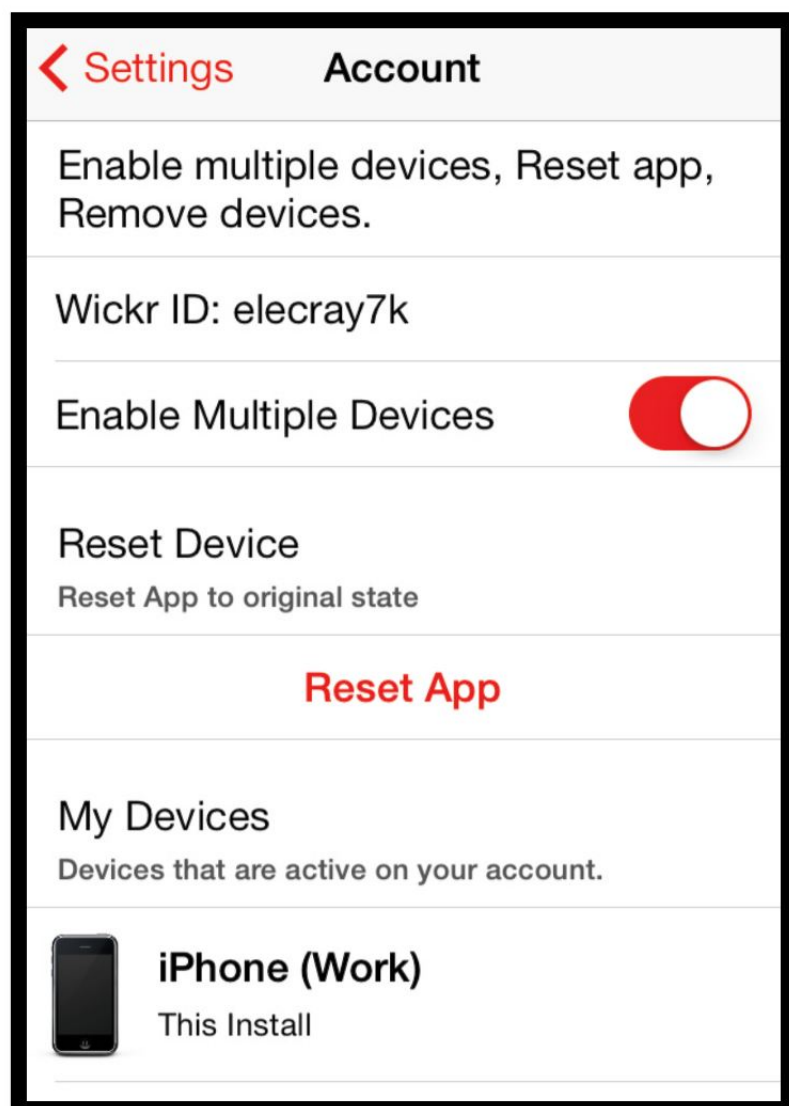
Android, iOS

Wickr

Free



Until recently, being secure online meant having to take extraordinary measures and required no small degree of technical know-how. That's not the case with Wickr, which lets you send encrypted media and messages that "bind" themselves to the recipient's devices and self-destruct at the end of a time frame you specify. The app even erases and overwrites the messages to make them impossible to recover. Using Wickr means learning to let go of messages, but if you can do that this is a superb way to keep your private communications private.





The Next Decade

What do we have to look forward to in the next decade insofar as computer technology is concerned? In the past, this used to be easy to predict, but I've noticed that this is getting more difficult because of an odd form of stagnation created by technology itself.

The basic problem stems from the fact that we're going backwards in time. The entire computing scene has reversed course and rolled back into the abyss, which it escaped when the so-called microcomputer revolution began in the mid 1970s.

That's when the Altair 8800 computer appeared. Prior to it, the few people with access to computers had to use punch cards and do so-called batch processing to run programs. But the Altair 8800 put the power onto the desktop, for the first time letting *you* do whatever *you* wanted.

The priesthood of mainframe gatekeepers fought this change. They called the first microcomputers "toys" despite the fact that no large mainframe, no minicomputer, could actually do any sort of "what-if" calculations on a spreadsheet. That required an Apple II. For the owners of big iron, this must have been both telling and distressing.

Eventually everything went to the desktop and the priesthood looked doomed. But they did not give up. "Centralized control is important to the system we're in," they must have thought. "We can't have every Jane and Joe Blow doing things unsupervised and on their own."

Because that fear of loss of control permeates all of society, it was foolish to ever think the computer priesthood was going to be wiped out. But it did



The invention of the World Wide Web was what really reversed the trend toward individual freedom.



take them forever to get things right.

Their early attempts to regain control from the microcomputer was to change the moniker of the device to “personal computer,” which immediately made it seem as inconsequential as personal toiletries. Then the idea was to promote network computing, client-server computing, appliance computing—any sort of computing that was attached to a central server and made the personal computer a glorified terminal.

This mindset still exists. Its biggest promoter today is Google with its Chromebook and Chromebox. The Chromebook is nothing more than a smart terminal. It even uses an old-fashioned aspect ratio.

But most people turned their PCs into smart terminals long before Google commercialized the Chromebook. The invention of the World Wide Web was what really reversed the trend toward individual freedom.

While promising nirvana with its lure of free and convenient information it brought with it the evils of gossip, disinformation, easy government dossier creation, vapid communities, and time-wasting of the highest order. We got Perez Hilton, Facebook addiction, Gawker, endless hoaxes reported as fact, BuzzFeed, YouTube videos of idiots riding bikes off of their roofs, chat rooms filled with guys pretending to be girls, tweets, spam, Google-washing, Nigerian scams, targeted advertisements for products you already own, cheap prescription drug offers, Hillary Clinton, Flappy Bird, Angry Birds, apps in general, Bing, Instant messaging, automatic phone-calling machines and on and on. None of it is useful, productive, or enriching.

The promises of the Web were never met. And though it's a miracle that you can find out many things on the Internet, the valuable and useful

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**When all is said
and done, we're
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came along.**

”

information is buried under a silt layer a mile high. When all is said and done, we're worse off than before the Web came along.

Now we have to worry ourselves sick about cyberwarfare and about the power grid going down because of a hacker. Nobody can protect our privacy. The government is snooping using the Internet. Our credit cards are routinely compromised. Identity theft is a plague. Once everything re-centralized back into the hands of the priesthoods, matters worsened—as expected.

Now we're stuck. So that's the answer to the question posed in this column. There is nothing to predict except sameness. Sure, a piece of goofball software will come along and get the attention of the world. So what?

Right now people are making a big deal of “cutting the cable” and returning to a simpler time with less TV watching. That's admirable, but it doesn't help if it means more YouTube watching, which it often does. There must be an overwhelming rejecting of any and all technologies that come with any sort of massive privacy invasion and with a time-wasting component.

As it is, most people are not aware enough of the problems with technologies and the evils they introduce into the public consciousness. Maybe that will change, and we'll once again have something to look forward to. I sure hope so.

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