

**CES 2013:
BEST
IN SHOW**

**DEMYSIFYING
ULTRA HIGH
DEFINITION**

**ONX TAKES
THE FUTURE
FOR A SPIN**

DISTRO

011813 #74

engadget[®]



INSIDE THE FIGHT FOR THE SECOND SCREEN

How Studios, Startups and Cable Providers
are Shaping the Future of Television

— THE WORLD'S —
BIGGEST CHALLENGES
DESERVE EVEN
BIGGER SOLUTIONS

{ POWERFUL ANSWERS }

FIND OUT MORE



ISSUE 74

DISTRO

01.18.13

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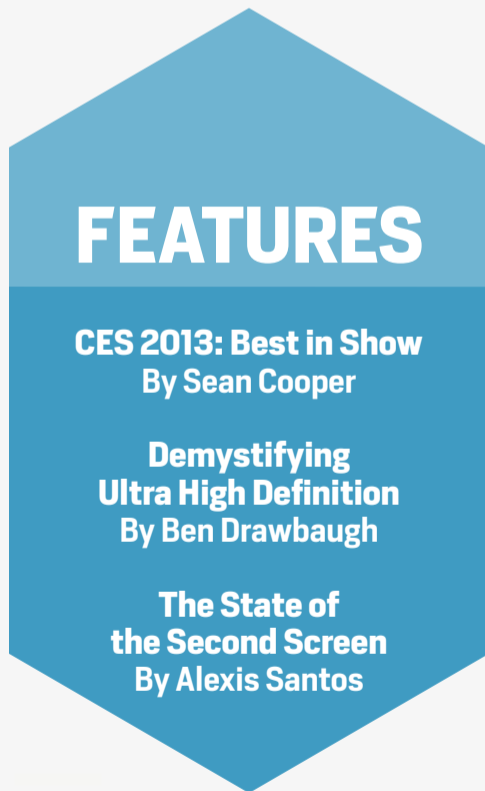


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TIME MACHINES

Pioneering Playback



WHEN GRAPHING GETS FRIENDLY



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EDITOR'S
LETTER

We've escaped Las Vegas. While a few of us were stricken by the CES Death Flu, and poor Danny Mak was rather more literally struck by a car whilst crossing Paradise Road, we got out of Sin City not much the worse for wear. Tired, sure, but alive — and that's good, because we had to jump right into the fray again with big news out of the Zuckerberg camp this week.

At a private event in San Francisco, Mark Z himself introduced the world to something new from Facebook. No, it isn't the dedicated Facebook Phone people have been talking about since long before HTC inserted a little blue button with an 'f' on it into the Status. Instead, we got the new Facebook Graph Search, something those with profiles on the service probably didn't know they wanted — and, frankly, may not actually want.

Put simply, Graph Search is a way for users to query information about their connections on Facebook, but it goes deeper than that, letting you discover relations and behaviors shared between your friends — and presumably strangers too, if their privacy settings are suitably lenient. The key

example given by project lead Lars Rasmussen was of moving to a new town and needing to find a dentist. By querying Graph Search, he can see which of his friends live in a given area and can go further by seeing which have mentioned liking (or hating) a dentist.

While it's very limited at the moment, the concept could be extended into every aspect of your activities on the social network, including querying which of your friends have a birthday in June, which of your friends drive Subarus and which of your friends listened to Katy Perry last week. And, if there's something you search for that Facebook can't find internally, it'll hand the query over to Bing.

Disconcerting? Maybe a little, but we were assured at the event that all will be able to be fully controlled by privacy settings when the feature rolls out. That'll take a while. The early phases of testing Graph Search will only be open to maybe a few thousand individuals — but a drop among the millions willfully shoveling the details of their lives to fuel Facebook's furnace. When it's your turn, make sure to get those privacy settings right, lest it be




“As we get closer to the January 30th launch of BlackBerry 10 we’ve been seeing more and more of the operating system and hardware it’ll be running upon.”

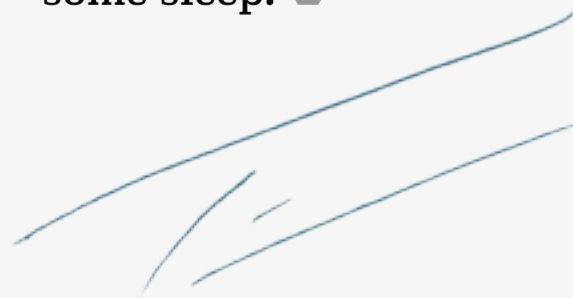
your secret craving for pop rock that’s discovered.

As we get closer to the January 30th launch of BlackBerry 10 we’ve been seeing more and more of the operating system and hardware it’ll be running upon. Over the past week we saw a very detailed video walkthrough of the Z10 handset, got pictures of a white version of that phone, confirmed Twitter and Google Talk integration and thumbed our way through a sales training document that indicates a massive 70,000 apps will be ready for download at launch. Mind, that’s about 10 percent of the number of apps available in the Play Store or iOS App Store by last count, but it’s a healthy start.

Google announced it’s going to start letting developers get time with Project Glass at the end of the month. At

developer events ranging from January 28th to February 2nd, those who pre-registered at Google I/O last year (and who were willing to pay the \$1,500 fee for early access) can sit in on two-day training courses on how to write apps that use the specs. We now know it’s a REST API for controlling the things, a simple interface that should make app development easy — but might also be a confining limitation for those who were hoping to take full control of all Project Glass has to offer.

We’ll be taking you briefly back to CES in this week’s Distro, taking a look at the battle for control of the second screen that is really coming to a head. We also have our Best in Show awards for the things that really stood out to us from the floor, plus a detailed explanation of just what Ultra HD is, and whether you need to start saving up for a new flat-panel TV. Ross Rubin talks about compromising for the greater good in Switched On, Joshua Fruhlinger politely requests that social networks stop trying to figure him out in Modem World and we’re going to show you what a wall of 3D printers looks like. Now, put your feet up and enjoy this week’s issue of Distro — and please excuse us while we try to catch up on some sleep. 



TIM STEVENS
EDITOR-IN-CHIEF,
ENGADGET



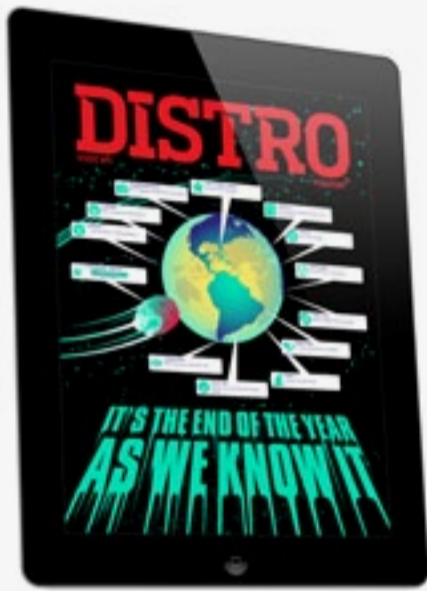
CONTENT QUERIES, BUBBLE POPS AND AN ANSWER TO AQUAPHOBIA



Touch article names to read full threads

DISTRO
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INBOX



2012 YEAR IN TECH:
A TIMELINE
ISSUE 71
DECEMBER 21ST, 2012

“I’m sure there were some tough calls to cut the fat, but I would have thought consumer 3D printing/CNC machines would have had a mention. Sure, they’ve been around for years now, but 2012 was a standout year for consumer 3D printing as far as public awareness and true manufacturer competition is concerned.”

—LOSTABROAD

HANDS-ON WITH TOSHIBA
84-INCH L9300 SERIES
ULTRA HD 4K LED TV
ISSUE 73.1
JANUARY 8TH, 2013

“Where’s the content? This is like releasing a gaming console with no triple-A titles... So maybe it can show 4K images... and maybe if you go on YouTube (via a PC) you may find some over-compressed 4k videos, but what else is in the works? TV is still 720p/1080i. It’s only been a few years since

most SD channels finally received an HD equivalent. How many networks plan to upgrade again? What motivation do they have to upgrade? So if they don’t, then that leaves the streaming companies and possibly 4K Blu-ray or some other competitor. It’ll take a very fast internet connection to get 4K so that will be a few years off, so all that’s realistically left is 4K optical discs ... and there has not been an announcement ... yet.”

—GITYOUSUCKA

NVIDIA PROJECT SHIELD
ISSUE 73.2
JANUARY 9TH, 2013

“Other than the Steam streaming capabilities (neatly tied to an NVIDIA GPU) how will this be different than a T4 phone or tablet with a Moga-type controller?”

—CARLOSMARTIN



VIZIO TABLET PC
ISSUE 73.2
JANUARY 9TH, 2013

“Those are great form factors ... 1080p, 11.6-inch, 16:9 form is very attractive. Now all we need are some low voltage CPUs to go with it. I am really hoping Intel can push Haswell below the 10W mark so we can see some core i machines with fan-less designs.”

—VIADO

SONY XPERIA Z
ISSUE 73.2
JANUARY 9TH, 2013

“I just say: waterproof ... OMG, no more fear of rain ... or drinking :D”

—USER775

“Gaming on the toilet is now safer.”

—AKADICIO

**TACTUS TOUCHSCREEN
KEYBOARD**
ISSUE 73.3
JANUARY 10TH, 2013

“I think this is one of those cases where tech is cool and looks to change the game for one field and really changes things for another. I feel like I’m looking at wooden wheels and it’s cool to think how advanced this could actually become.”

—ULTRA_ORANGE

“Finally, bubble pop for real!”

—SHAUNCAVANAUGH

**RAZER EDGE GAMING
TABLET / HOME CONSOLE**
ISSUE 73.3
JANUARY 10TH, 2013

“This is amazing that they have provided this kind of cross platform compatibility and the \$1,500 price tag is not outrageous with what you get. You basically get a home gaming console, a portable gaming console, a home pc to do whatever you do on your computer and a tablet for when you want to play casual games, etc.

Regardless, this product does not currently exist, and it is truly revolutionary, very happy with what they’ve done here.”

—BOMBAY_TOMMY

FITBIT FLEX
ISSUE 73.2
JANUARY 9TH, 2013

“New stuff is always welcome, but I don’t see myself wearing that watch replica with another watch on the other wrist. Jawbone’s purpose was to make it act like an accessory. The Fitbit Flex looks like a broken watch with no display.”

—UOPJ06



**CES
2013
WRAP-
UP**

ENTER

EYES-ON

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QNX CAR PLATFORM 2.0

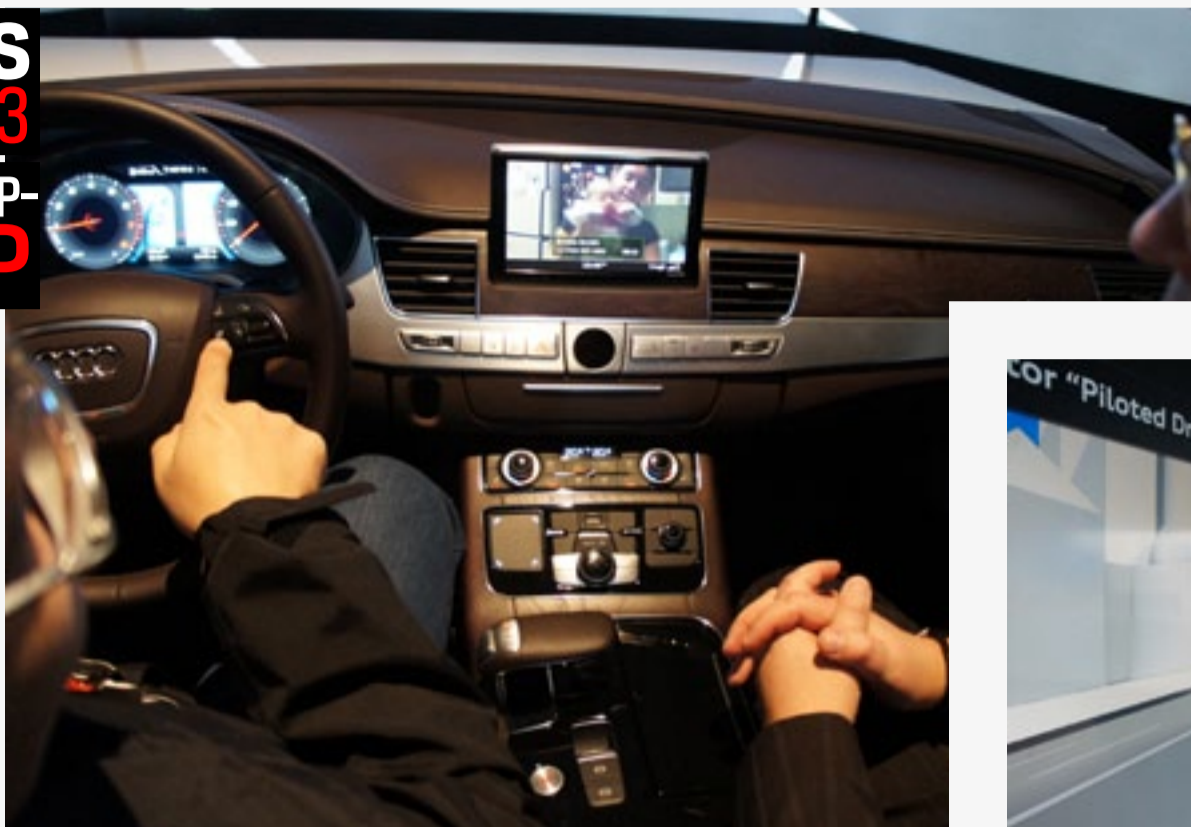
*Tap for
detail*

**INFOTAINMENT
CENTRAL**

**HIGH-RES
GAUGES**

In order to show off its latest software, Car Platform 2.0, QNX outfitted a Bentley Continental GT with its newly minted pride and joy. Aside from the highly capable programming, the hardware portion of the vehicle is what really nabs an extended gaze. Wielding a trio of displays, ultra HD sound, video conferencing and a 3D backup camera, the \$200,000 vehicle is made even more desirable with these upgrades.



CES
2013
WRAP-
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AUDI PILOTED DRIVING SIMULATOR

Audi's booth was visually the most arresting we saw this year at CES because it was packed to overflowing with people and beautiful shiny things — and because the floor, ceiling and walls were really brightly lit. In one wing, Audi had set up a car cockpit in front of a few massive displays to simulate tooling down Las Vegas Boulevard in a self-driving car equipped with its Piloted Driving system. In bumper-to-bumper conditions at speeds up to 60 km/h (37.28 MPH), flicking a switch on the steering wheel disconnects you from the steering and pedals and frees up the in-car entertainment and telephone for your amusement.

The car will maintain distance to the vehicles ahead and nearby using its own

proprietary LIDAR (Light Detection and Ranging) laser that it will eventually mount in the car's grille — rather than the traditional roof mount — and a monocular camera to keep it within the safety of the white lines. Nevada being, well, home to Las Vegas, has given the thumbs up to this type of research, so long as you follow the Nevada DMV guidelines and have the red plate that marks your car as an autonomous vehicle.



Click on product names to read full stories

PRICE: N/A

AVAILABILITY: IN R&D

THE BOTTOMLINE: AUDI'S SIMULATOR OFFERS A HAND WITH RUSH HOUR AND OTHER LOW-SPEED, HEAVY-TRAFFIC SITUATIONS.



CES
2013
WRAP-
UP

MARTIAN PASSPORT WATCH

At a glance, the Martian Passport looks very much like a classic wristwatch, replete with analog hand dials, a knob to change the time and a metallic casing. Look a little closer, however, and you'll spot a 96 x 16 pixel OLED screen, capable of displaying contact names for incoming calls and scrolling new text messages. It's a bit thick (0.52 inch), but it houses a battery that can survive a full two hours of yapping (yep, you can take calls with it), or seven days in standby. Those needing

PRICE: \$299

AVAILABILITY: MARCH 2013

THE BOTTOMLINE: THE PEBBLE IS A MERE \$149, SO YOU'D HAVE TO REALLY PREFER THE LOOK (OR LOVE DICK TRACY) TO PAY DOUBLE.

to juice it back up can do so in a couple of hours via the side-mounted micro-USB port.

Internally, there's a Bluetooth 4.0 chip, vibrating motor for notifications, three-axis accelerometer, magnetometer, noise-cancellation microphone and a couple of menu / select buttons on the left. The whole thing is shockingly well-built, oozing quality from every possible pore. In our tests we saw the watch pick up calls and notifications from an iPhone 4S immediately, and the OLED panel was remarkably easy to see even from a few feet away. Chatting into the watch was predictably awkward, but undercover agents should feel right at home. In all seriousness, audio quality was crisp, and folks on the other end had no issues hearing us. And, of course, there's the ability to control the thing via voice.



Click on
product
names to
read full
stories



CES
2013
WRAP-
UP

REEBOK / MC10 CHECKLIGHT

Reebok and MC10 have collaborated to create CheckLight, a head-impact indicator meant to make it easy to see when an athlete has taken a dangerous blow to the head. The CheckLight is composed of two parts: a sensor device built by MC10 and a skullcap made by Reebok. The sensors are in a strip of flexible plastic and connected to a small microcontroller module with three indicator LEDs and a micro-USB port. One LED serves as a battery level indicator, one flashes yellow after moderate impacts and a third flashes red for severe blows. MC10 wasn't willing to share the exact hardware inside, but we know that it's got a rechargeable battery and has rotational acceleration, multi-directional acceleration, impact location and impact duration sen-

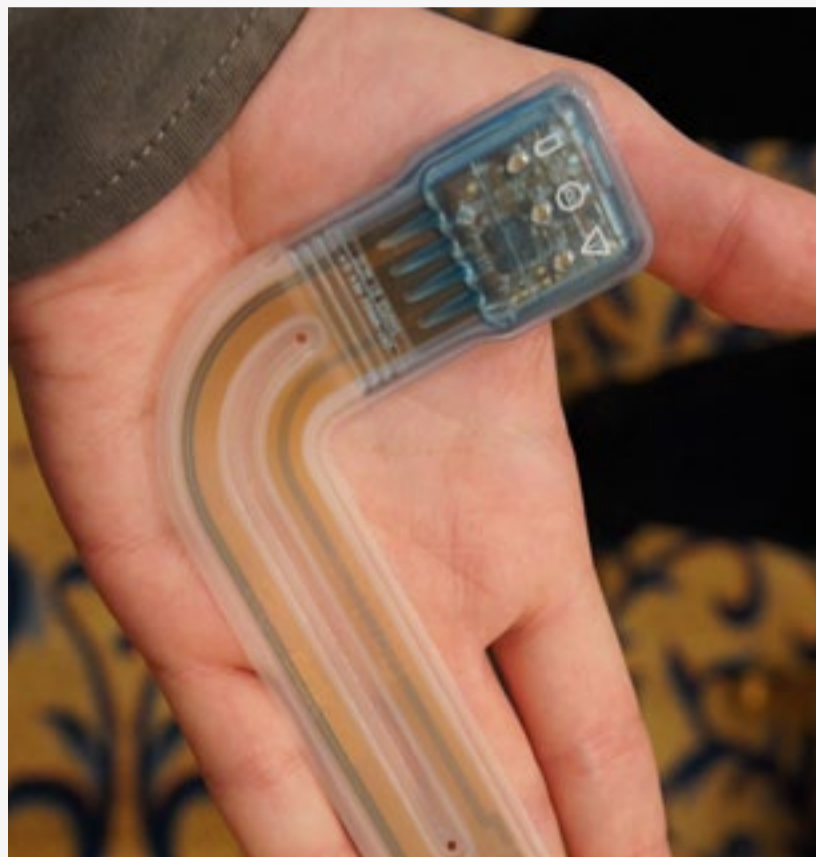
PRICE: TBD

AVAILABILITY: TBD

THE BOTTOMLINE: MC10 TEAMS UP WITH A SPORTS EQUIPMENT POWERHOUSE TO MAKE CONCUSSION DIAGNOSIS MUCH EASIER.



Click on product names to read full stories



sors inside.

There are two key features that separate CheckLight from previous athletic impact sensors. First, its flexible design measures the impact on a wearer's head, as opposed to the impact on a helmet, which — according to MC10's Isaiah Kacyvenski — means the data it provides is more relevant and accurate than competing systems. And it means the CheckLight can be used with multiple helmets. The device's second value proposition lies in its ability to provide simple, actionable information to both athletes and medical personnel. **D**



CES 2013 by the Numbers

CES is a sprawling collection of cavernous halls, hotel suites and in-town meetings and we've pulled together some numbers to help demonstrate the sort of scale involved, but with the likes of Sony, Samsung, Panasonic and more than 150,000 attendees, it's going to get a little messy.
— *Mat Smith*

150
Countries represented
20,000
Products launched

>150,000
Attendees

75%
Percentage of show materials recycled after CES.

118,800 seconds
Time that the show floor was open.

**CES
2013
WRAP-
UP**

1.85M

Square Feet of CES show floor area.

0 Sq. Ft.
Microsoft's show floor space.

50 Ft.
Qualcomm's CES keynote screen.

24

New Windows 8 devices spotted.

8 Number of companies showing 4K displays.

\$300,000

The cost of Westinghouse's 110-inch 4K TV.

\$10

The price of a food truck hotdog in CES' trailer park.

9,830,400

Pixels on Panasonic's 20-inch UHD tablet:

Too many

Times that Gary Shapiro's *Ninja Innovation* book was pimped.

Sony products announced:
25

10
Sony products announced with pricing and launch dates.

FIVE

Maroon:

1,440 Sq. Ft. Trailer size
52 Desk spaces
2 Plants (Maria Letizia, Norman)
60 Cupcakes consumed
645 Posts published during CES
265 Posts written on 'Day -1'

59

Interviews held live on the Engadget stage.

4,000
T-shirts given away at the Engadget vending machine.

1
Poorly made t-shirt with Tim Stevens' face on it.

Official Online News Source of CES

engadget





Can Meg Whitman Reverse Hewlett-Packard's Free Fall?

By Ashlee Vance and Aaron Ricadela
Bloomberg Businessweek

HP is a company that's prompted no shortage of talk and articles as of late, and with good reason. It made a big bet on smartphones and tablets with Palm just

a few years ago that would quickly come to a crashing halt, and it's gone through more CEOs in recent years than most companies do in decades. That said, there's still plenty to be written about the mainstay of the computer industry, as evidenced by this in-depth piece by Ashlee Vance and Aaron Ricadela in the most recent issue of *Bloom-*

berg Businessweek. It goes back to the beginning of the company's most recent turmoil, and traces things through the Mark Hurd scandal (including how Steve Jobs stepped in) up to the challenges that current CEO Meg Whitman now faces. Naturally, the question posed in the title isn't completely answered, but the article provides one of the most complete looks at the HP of today, and some hints as to where it might be headed.



Click on headlines to read full stories

How I Launched 3 Consoles (and Found True Love) at Babbage's Store No. 9

By Lee Hutchinson
Ars Technica

It may serve as something of a history lesson to younger readers, but most people reading this will no doubt be thrown into fits of nostalgia by this memoir / look back at gaming in the 1990s from *Ars Technica's* Lee Hutchinson. Just don't blame us if you suddenly find yourself scouring eBay for a good deal on an Atari Jaguar or Sega Saturn.

2012: The Year in Mobile Photography

By Anton Kawasaki
Digital Photography Review Connect

There's no question that mobile photography has been growing steadily year over year, but DP Review's *Connect* site makes a strong case here that 2012 was a particularly big year. That's not just due to developments like Facebook buying Instagram, but real advances in mobile photography itself, with it taking on a bigger role than ever in both art and news.

The Internet of Things Has Arrived — And So Have Massive Security Issues

By Andrew Rose
Wired

You won't find many who say that the so-called Internet of Things hasn't received enough coverage, but Andrew Rose suggests that one key issue related to it has been under-covered: security. In this piece for *Wired's* Opinion blog, he breaks down what some of those issues are, and why they're different from your average computer security problems.



COMPROMISING POSITIONS



DISTRO
01.18.13

FORUM

SWITCHED
ON

BY ROSS RUBIN

Windows powers tablets *and* PCs.

It supports desktop *and* “Windows 8-style” apps using touch *and* keyboard / mouse and can run on x86 *and* ARM CPUs. You can even get it on hardware from Microsoft *and* third parties. Microsoft refers to this as creating a “no-compromise” operating system.

Some of its users will run Windows on an Intel Ultrabook, which an Intel blog post has referred to as a “no-compromise” notebook. But it won’t run on the Google Nexus 7, which Google describes as a “no-compromise” Android tablet. And it certainly won’t run on a Wang 2200 SVP from the early 1980s, which was hailed by a sales brochure as “the low-cost, no-compromise computer.”

What? My no-compromise operating system won’t run on my no-compromise tablet? That could compromise expectations.

Tech companies occasionally position their products as having fewer

compromises or no compromises. It’s an alluring ideal, but one that is of course unachievable. There is no compromising on the notion that all products involve compromises, lots of them. Show me a product with features and I will show you one with compromises. Rather than hide from compromise or pretend that it doesn’t exist, companies should embrace it. For the compromises or tradeoffs a product embodies reflect the thoughtfulness of how it was designed.

No one would suggest that a company should highlight what a product does poorly nor should they deny potential disadvantages. Companies




“Show me a product with features and I will show you one with compromises.”

should play to a product's strengths. When Steve Jobs introduced the iPad, he prefaced the device's appearance by acknowledging it had to do only some things better than a smartphone or laptop. Apple customers clearly got the message and accepted the product for what it does well while continuing to purchase plenty of iPhones and MacBooks. Apple didn't, for example, talk about how typing on an iPad can be a frustrating experience compared to a physical keyboard. (Jobs did, in fact, praise typing on the iPhone's screen at its introduction.) But it does embrace the tradeoffs of the iOS touchscreen focus by refusing to put touchscreens on the Mac.

Similarly, Microsoft deftly highlighted the benefits of its compromised Surface Touch keyboard. It focused on the thinness of the resulting product and claimed that it was still far more effective than typing on

glass. Plus, it has the added benefit of not obscuring half the screen. The compromise of a lack of tactile feedback is implied.

Even when technology advances to allow such simultaneous benefits as better battery life and faster processing speed (via multicore technology, for example), companies must evaluate whether it is worth raising the price to include such a chip or delaying a product to take advantage of such benefits. Engineering is about making the right compromises and marketing is about communicating them to achieve the ideal position at the intersection of mass appeal and profitability. So, as we move further into 2013, let us no longer pretend that there is such a thing as a no-compromise product, or at least one that doesn't compromise a company's credibility.

Come on technology companies; work with me on this. 



PLEASE DON'T PERSONALIZE ME. I KNOW WHO I AM



DISTRO
01.18.13

FORUM

THIS IS THE
MODEM WORLD

BY JOSHUA FRUHLINGER

Here's the thing: I know who I am. I don't need Facebook or Google or Microsoft or Apple or anyone else to collect data and tell me what I'm interested in. I'm pretty sure I know what I like and don't like. I'm also pretty sure I know my friends, and if I am looking for a recommendation on something, I'll hit particular people up based on what I know of who knows what. Know what I'm saying?

This week Facebook announced its new search technology, which a lot of us knew was coming. The premise is, if I may minimize, what my friends like is probably good for me. I can see how scientists may think this is plausible, but in reality, this can't be further from reality.

Here's an example.

I love my wife more than anything. More than rain on a Sunday afternoon with a good book, more than the first bite of a T-bone steak at Les Halles.

She's perfect. She's everything to me.

She loves pink. I hate pink. But I still love her, and love her in pink. According to a socially relevant search engine, I should also love pink. But I do not, and will not ever wear pink. That's just me. She's cool with that, and so am I. Kismet.

But the scientists, digital marketers and bet-placers of today are betting on the notion that we are guided by what our friends are doing. This is certainly true on a day-to-day basis — we look





Prometheus'
David makes
a world-
changing
discovery.

to our friends for guidance all the time — but it's true in a qualitative manner, and when we try to quantify the qualitative, math fails. Go ahead; tell me how much your love of burgers — or pink — is worth.

I'll bet you can't.

I get it. Maybe my best friend and I are best friends because we share common interests. We both think Terry Gilliam's *Brazil* is a killer movie, so when he mentions on Facebook that he loved *Prometheus* and I search for "movies my friends like," it should weigh that one pretty heavily. But here's the thing — I already asked him, and the chances that I'm going to be so desperate for a social recommendation that I'll turn to my social networks for something to do is, at least in my case, slim to none.

No, in fact, I'll turn to the quantitative favorites like Google, because then I can insert my own biases and opinions based on the opinions of those I don't


know. The funny thing is that I find the opinion of someone I don't know more telling than my best friend's, because, well, my best friend is pretty predictable, and that's exactly why he's my best friend. And that's not something I need a computer to tell me.

A few years ago, when I was given the task of coming up with ways to get readers to read more stuff on a particular website — let's call it Engadget — a bunch of promising technologies were presented that looked at what a reader was reading and suggested similar items. It was all too obvious. So obvious, in fact, that I felt the need to buck the notion.

I wondered, "When someone orders a burger, do they want another burger, or do they want a side of fries?"

My point is this: Sometimes we want to discover things our friends don't know about. That's what makes friendship interesting: we bring new things to the table, and if all we do is like exactly what our friends like, we'll all end up bored out of our minds.

Maybe I'm missing the point — maybe the idea is to create bonds based on suggestions that new friends like, thereby strengthening our bonds, but if that's true, that should be clarified.

Until then, I'll be over here on the old-school search engines. Call me anti-social. Go ahead. I dare you. 



CES



**CES 2013:
BEST IN SHOW**



**DEMYSTIFYING
ULTRA HIGH
DEFINITION**

2013

WRAP-UP



**THE STATE OF THE
SECOND SCREEN**

We've closed the doors to our CES trailer for another year, but 2013 is just beginning. To put a bow on another crazy week in Las Vegas, here's a look at some of the biggest trends and breakout stars from the show floor.





We filtered
out the noise of
CES 2013 to bring
you the best and
brightest
By Sean Cooper

Selecting the **best in show** is no easy task, because CES covers such a crazy range of devices: refrigerators, tablets, smartphones and even technologically advanced cutlery. This year was no different. We've combed our CES 2013 coverage and narrowed it down to the biggest announcements that had us chattering at this year's show. Herewith, CES 2013's very best.



**BEST IN HDTVS:
SONY'S 56-INCH
ULTRA HD OLED**

One of the narratives going into (and coming out of) CES 2013 was whether OLED or 4K TVs represented the best of the high-priced displays filling manufacturer's high-end product slots this year. We saw many great displays and connected products at CES 2013, but our pick for best in show is the one that made the fewest compromises: Sony's 56-inch Ultra HD OLED. It does have the drawback of being without a release date or possible price — hey, what happened to that Crystal LED from last year? — but putting out an image in which we found no flaws pushed this one to the top. Other contenders included Panasonic's new top-of-the-line ZT plasmas, Samsung's 85-inch UHDTV and LG's soon-to-ship 55-inch OLED, but when we're thinking about what the best thing we saw this year was, there's no question that this was it.



BEST IN GAMING: RAZER EDGE

Razer's Edge was the most exciting gaming news out of CES 2013. Not just because it's a powerful gaming computer (it is), but also because of its modularity. That it can be used as a stand-alone tablet, as well as a portable game console, as well as a home game console is extremely appealing. The Edge takes an open platform and combines it with the comfort of gaming consoles — two great tastes that taste great together. Except this is actually more like four or five tastes that taste great together.



BEST IN TABLETS: PANASONIC 4K 20-INCH TABLET

We hadn't even heard whispers about this prototype 20-inch 4K tablet before CES, but it quickly became the thing showgoers were gushing over. Sure, it's really heavy and the battery life is likely quite poor, but who cares? The display quality, impressive brushed-metal back and bezel and — to quote our own Jon Fingas — the “audacity of Panasonic to build something like this” were mighty compelling. The booth display had the tablets set up demoing architectural applications and remote photo shooting work. We'd take either thank you very much.



BEST IN SMARTPHONES: SONY XPERIA Z

What's a modern trade show without at least a couple handset launches? Unfortunately, Mobile World Congress trumps CES for cell launches, but that doesn't mean this show was without some magic. The Sony Xperia Z's 5-inch 1080p display and the new Exmor RS sensor for HDR video capture, plus the fact that it is waterproof, helped it shine in our opinion. The overall look and feel of the device is head and shoulders above anything else we've seen from Sony; they've stepped from wobbly plastics to a premium feel. Carrier specifics and exact launch date are still being hashed out, but look for the Sony Xperia Z this year sometime in Q1.





BEST IN LAPTOPS: LENOVO YOGA 11S

Given that Intel's battery-saving Haswell chips won't be shipping for a few months yet, it's pretty clear the best laptop of 2013 is yet to come. For the time being, though, our favorite notebook of CES and the new year would have to be Lenovo's Yoga 11S. It offers the same comfy keyboard and versatile form factor we admired on the Yoga 13, except it's been cut down to a more compact size (one that's easier to use in tablet mode, we'd wager). At the same time, unlike the similarly named Yoga 11, it runs full Windows 8, not RT, and is powered by a more robust laptop-grade processor. Lenovo's shape-shifting ThinkPad Helix was also a serious contender, what with its reversible display, but we have a feeling ThinkPad diehards are going to loathe that new buttonless trackpad.

BEST IN AUTOMOTIVE: FORD APPLINK DEVELOPER PROGRAM

The story leading up to CES on the automotive front was self-driving cars, but that ended up being a bit of a bust. Toyota's automated entry proved to be nothing more than a research vehicle, and Audi's demonstration was limited to say the least. The biggest story, then, was instead one of software, with both GM and Ford announcing developer programs. It is Ford's effort that shows the most potential, however, enabling developers to easily upgrade their existing smartphone apps to interact with the company's SYNC AppLink. Most important: it's totally free.



BEST IN WEARABLES: PEBBLE SMART WATCH

CES has seen its fair share of smart watches in the past, as just about every manufacturer has offered at least one design in an attempt to make the genre popular. However, the Pebble might be the first such device to make consumers stand up and take notice — heck our own Myriam Joire pegged the Pebble as her hands-down favorite gadget at the show. The sealed polycarbonite face and bezel, plain English time and stellar build quality are part of what makes it really compelling. Other standouts include the MagSafe-like adapter and waterproofing up to some five atmospheres of pressure (that's about 160 feet.) The Pebble appeared on Kickstarter early last year and quickly raised \$10 million dollars; it's now set to ship January 23rd, after multiple delays.



WRAP-
UP

BEST IN UTENSILS: HAPILABS HAPIFORK (AND SPOON)

At first glance the HAPILABS HAPIfork seems more novelty than tech — and may well prove to be — but it definitely stepped away from the norm and garnered a pile of attention. The idea is you use the fork as you normally would, but it keeps track of how long you eat, how quickly and how many bites you take. It then shares these metrics with a Runtastic-like site. Eat too quickly and the fork or spoon — the end is detachable — will vibrate to let you know to slow down a touch. The \$99 HAPIfork ships in Q2 this year.

BEST OF THE REST: TACTUS MORPHING TOUCHSCREEN

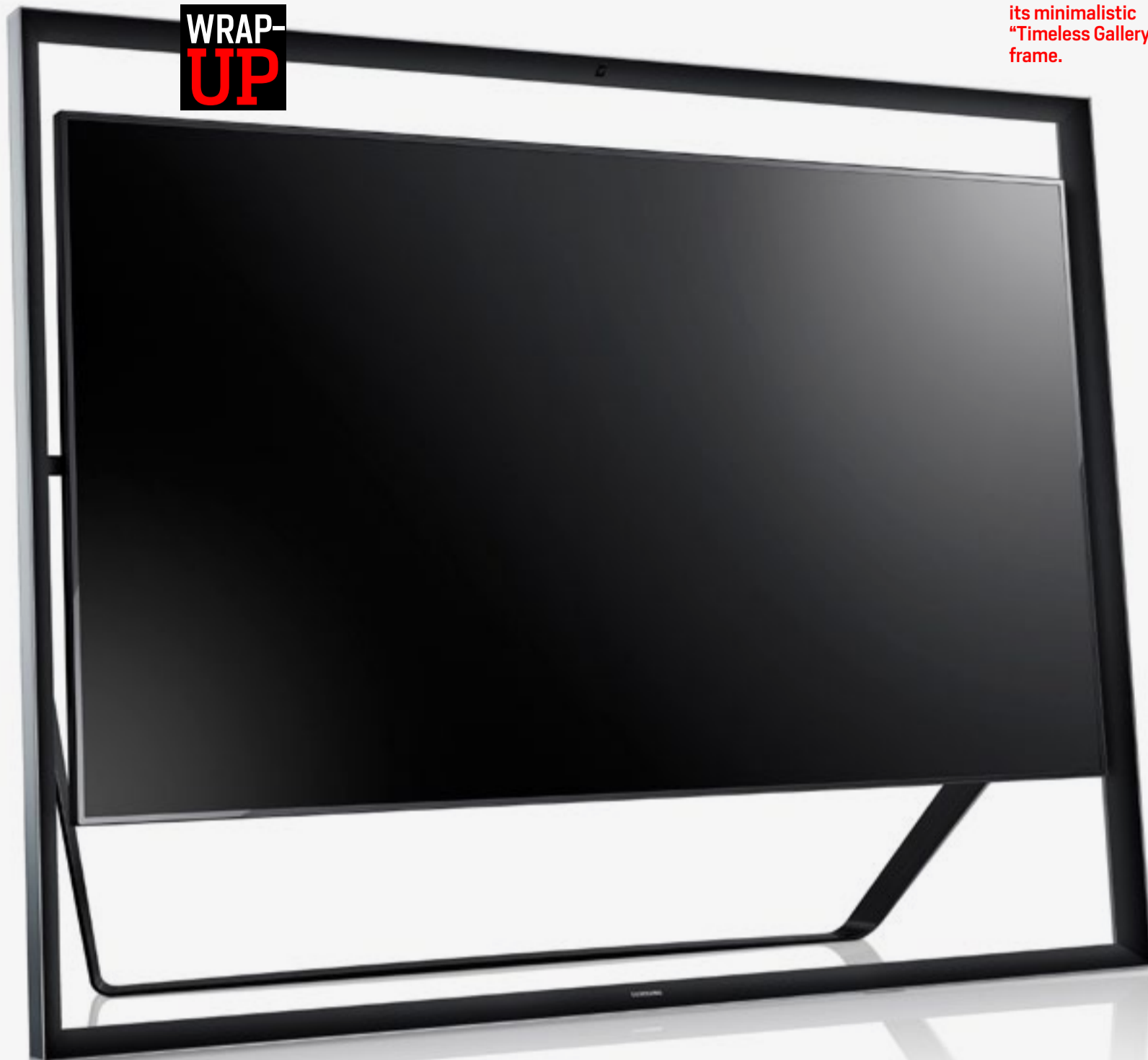
Tactus' morphing touchscreen was quite likely our all-around favorite device at the show. It combines a great idea with interesting potential and that full-on science fiction *wow* when you first see the “keyboard” inflate. Tactus hopes to see products shipping with its tactile touchscreen this year in devices ranging from phones to devices for the visually impaired. We wish them well and look forward to checking out what may eventually come of this technology. **D**



Sean Cooper is a Contributing Mobile Editor, phone fanboy and Subaru fanatic from the Great White North.



Samsung's 85-inch S9 UHD TV in its minimalistic "Timeless Gallery" frame.



Demystifying Ultra High Definition

The age of **ULTRA HD TV** is here, but what does that mean for you?

By **Ben Drawbaugh**

Even before this year's CES kicked off, we knew Ultra High Definition was going to dominate the show. Then from the first press conference to the last, $3,840 \times 2,160$ resolution displays were a centerpiece of almost every major manufacturer's announcements. Leading up to the show, the CEA's board decided against using "4K" to market these 8-megapixel (1080p is two megapixels) dis-



plays, instead choosing Ultra High Definition or Ultra HD. Of course not everyone followed along. In fact Sony was first to market in the US, late last year, with its “4K Ultra HD TV.” The display is only one piece of the puzzle and plenty of questions remain, however. Like, “Where’s the content?” and “Will I have to replace all my other home theater gear?” Questions aside, Ultra HD TVs are here and more are coming, so read on for these answers and to discover the state of new Ultra HD TVs for 2013.

THE ULTRA HD TVS OF CES

As we break down the Ultra HD televisions introduced at CES 2013, we’ll start with the two companies that actually brought them to market in the US last year: Sony and LG. The 84-inch models are both shipping now if you have enough cash to afford them, with MSRPs of \$19,999 for LG’s model and \$25k for the Sony offering. Sony’s is particularly notable for the moment, since it’s the only one to come with any 4K content courtesy of a pre-loaded hard drive that accompanies the unit as a free lease. New on the show floor from each, however, were smaller versions destined for pro-

Sony's PMW-F55 CineAlta 4K Digital Cinema camera joins the ranks of Ultra HD-ready camcorders, and at a relatively affordable price.





China's TCL shows off its 110-inch "China Star" 3D Ultra HD TV with the help of a none-too-subtle marketing tie-in.

duction later this year. Again, both will be offering 65- and 55-inch options, with LG touting its Smart TV ecosystem, while Sony focuses on the return of Triluminos RGB pixel technology to its lineup. Sony also spiced up the offerings by showing off a prototype 56-inch 4K OLED display, however, when or if that will ever be released — and at what cost — is unknown.

Toshiba is also already shipping a 4K TV, albeit only in Asia and Europe, but at CES 2013 it announced the second-generation model would be available in the US this year. Coming home in 84-, 65- and 58-inch versions, VP Scott Ramirez told us Toshiba has an advantage thanks to its experience with the sets and a high-powered CEVO 4K Quad+Dual Core processor that handles upscaling duties. The Toshiba L9300 4K





Samsung adds a gallery-esque flare to their S9 series, soon to be available in sizes up to 110-inches. Perfect for that cavernous loft space, just like everyone has ... on TV.

UltraHD TV Series is scheduled to ship in the summer, with integrated 3D and its new “Cloud TV” app system.

Samsung came through with its own lineup of 4K sets as well, showing off an 85-incher (just large enough to be the largest) in a very unique (we’re staying positive on it) “Timeless Gallery” stand, and promised to launch even bigger versions (95- and 110-inch)

later in the year. Vizio is always a player to keep an eye on, known for bringing features to lower price points than its competitors are willing (or able) to. And this year it’s already promising “mainstream” Ultra High Definition TVs. At its private suite, we saw 70-, 65- and 55-inch models planned for the XVT line later this year rocking a slick, understated design. While we’re fairly sure the company will make good on its claims, previous delays on groundbreaking XVT models suggest we should write that 2013 release date pledge down in pencil, not pen. Size-obsessed Sharp also promised to make noise in the 4K space, revealing that a 4K model will join its AQUOS line of LCDs in the second half of this year.

Lesser-known manufacturers like Westinghouse, TCL and Hisense also had high-res models to flash, although we’ll wait until they actually ship (in the US) to get too excited there. Panasonic showed an OLED 4K prototype that was similar to Sony’s, but didn’t mention any extra pixel plans for 2013. If you’re noticing a distinct lack of pricing information here, then you have a keen eye. Despite a slew of announcements and launch windows that



If you followed the progress of HDTVs from the beginning, this is all going to be very familiar.

put some of these new Ultra HD TVs just months away, no one was willing to discuss exact cost right now — and probably with good reason.

CONTENT

If you followed the progress of HDTVs from the beginning,



With display technology leaping ahead of available content quality, vendors experiment with upscaling as disc and broadcast resolution gets up to speed.



this is all going to sound very familiar. Ultra HD is the classic chicken and the egg causality dilemma all over again. Sony addressed this with its initial offering by including a server preloaded with 10 Hollywood movies. It then followed that up by announcing at CES that it would be launching a downloadable movie service this year. This works for now, but obviously more widely available solutions will be essential to the success of Ultra HD. Blu-ray is an obvious solution, but the Blu-ray Disc Association did not announce a 4K update to the standard. Mastering a 1080p disc in 4K will help, but it doesn't solve the problem. This new mastering process should benefit everyone, though, the first of many technologies designed for Ultra HD.

For now, this means the majority of content on an Ultra HD will be upscaled 1080p. Scaling a single pixel into four is a matter of interpolating what the color of pixels in the middle should be. This is easier than ever thanks to the amount



of sheer processing power in modern chips and years of experience to draw on. It is not true 4K, obviously, but just about every major TV manufacturer's booth had an upconversion demo that was so dramatic that it's impossible not to wonder if the demo was intentionally deceptive. The bottom line, though, is we believe an Ultra HD TV will always look better than a Full HD TV, all other things being equal (content, device quality, etc.). It is certainly good enough to hold buyers over until native content arrives — in fact, we even have a sneaking fear that many won't notice the lack of true 4K content, enabling broadcasters to be less motivated to produce genuine Ultra HD content.

We witnessed how long it can take for higher resolution content to make it to market in the early days of HD. Unlike High Definition, 4K content has been produced for years before the first TV shipped. If you've been to a digital cinema, you've probably already experienced 4K. A quick search of IMDb will reveal how many of today's movies are shot natively in the format, thanks to the plethora of affordable — as far as professional video equipment goes — 4K cameras. Even older films that are scanned with a telecine, for preservation and release on Blu-ray, are often scanned to 4K masters these days. So while it took almost eight years from the release of the first HDTV for an HD disc to arrive, we'd be surprised if it took even half that for native 4K content to be available on disc. It's something that will probably depend more on the price of the Ultra HD TVs than the technological feasibility of creating a 4K Blu-ray disc.

Broadcasting 4K, on the other hand, is hardly around the bend. HD broadcasts and HDTVs were both introduced to the US in 1998, but it took another three years for HD networks to show up on satellite and cable providers. Un-

We witnessed how long it can take for higher resolution content to make it to market in the early days of HD.



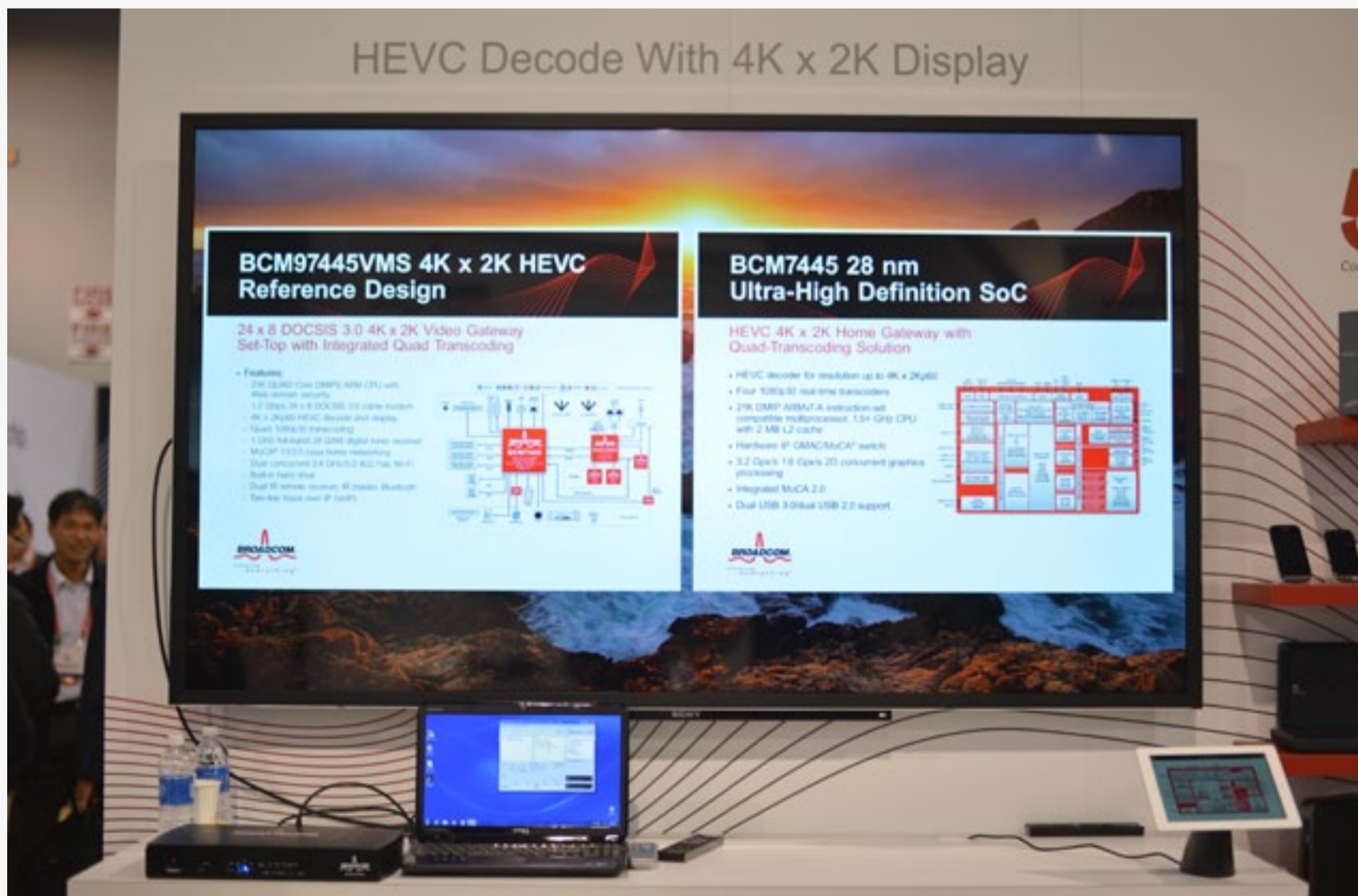
like broadcasting 3D, quadrupling the amount of pixels is something that will require almost every device in the content delivery chain to be ripped and replaced — more on that later. Add in the need for another simulcast channel (that's four now: SD, HD, 3D and 4K) and the economic short-term feasibility of broadcast Ultra HD TV seems years away.

DELIVERY AND CONNECTIONS

So you have an Ultra HD TV and your favorite content is available in the format, but how do you connect it all together? The home theater connector of choice has been HDMI for almost 10 years now and you may have missed this, but when HDMI 1.4 was released to support 3D formats, 4K support was added too. This means that

nearly all of the “HDMI High Speed” cables you own, and many of the AV receivers released since 1.4 was defined in 2010, already support 4K, up

Broadcom hopes to add its ARM-based SoC to future set-top receivers and Blu-ray players in order to support forthcoming 4K video service.



to 60 frames-per-second.

We have already even seen a few Blu-ray players and AV receivers upscale to 4K. Just because something supports HDMI 1.4, however, doesn't mean it supports 4K. To that end, most will have to replace their source devices. This means new cable boxes, new DVRs, new media streamers or in the case of Sony's current solution, a new media server. Modern high-end computers don't have a problem with 4K, so once again HTPCs will be at the forefront of supplying content to a new resolution in TV displays. In fact, you can already download 4K clips online and watch a few on YouTube. There's a chance that online streaming sites like Netflix and Vudu could be the first to deliver 4K content to the masses, with Netflix even showing a 4K technology demonstration at CES.

Netflix just released its Super HD streaming option, but it already has 4K in its sights as it teams up with Samsung to showcase UHD streaming content.

Transmitting HD typically uses less broadcast spectrum than analog SD thanks to MPEG2. The exceptional quality of Blu-ray, as well as the plethora of

Ultra High-Resolution Netflix Video on Samsung UHD TV

Samsung and Netflix Partnered to Showcase Early Results of Their Work on 4K Video



online streaming options, are in part thanks to more efficient codecs like h.264. So it shouldn't surprise you that Ultra HD content has created a push for the next-generation codec: High Efficiency Video Coding (HEVC). Expected to be ratified this month and in the works since 2004, HEVC offers better quality at half the bit rate at resolutions up to 8K. Using the same codec, even though 4K is four times the resolution of 1080p, it may only require twice the bit rate — depending on color depth and other variations.

So with 4K encoded with HEVC, it could end up using the same bandwidth as 1080p encoded with h.264. This means that MPEG2-encoded 1080i broadcast TV might actually use twice the bandwidth of HEVC encoded 4K. Unfortunately, none of the current TV set-top boxes support it and only the latest TVs announced at CES this year do — and even some of the 1080p sets. Motorola expects to offer HEVC encoders to TV providers this year and Broadcom demoed its 4K SoC for set-top boxes at CES; samples are currently available to manufacturers for testing.

So while the technology will exist in the market in 2013 to deliver broadcast Ultra HD — which was demoed at CES — the likelihood of a broadcast standard being agreed to and then making into the homes of the select few who can afford an Ultra HD this year is nil. It is hard to predict when prices on the new TVs will be low enough to drive adoption. One thing is for sure: all the networks and TV providers who ripped and replaced to upgrade to HD, won't be in a hurry to do it again. The 2016 Olympics are likely to be a big moment for Ultra HD, as worldwide events like this have typically been a motivating factor for providers to showcase new technologies like HD and 3D in the past.

It is hard to predict when prices on the new TVs will be low enough to drive adoption.





A series of companies flexed their 4K OLED chops at CES, many with overlapping "first" or "largest" claims, but competition is needed to help bring the cost down on these assuredly pricey displays.

WRAP-UP

Just like HD, there are many who doubt the improved picture quality that Ultra HD delivers is dramatic enough to motivate us to run out and replace our TVs. But a funny thing happened on the show floor of CES in Vegas this year; looking at HD now feels like looking at SD. It is one of those things where the improvement doesn't appear dramatic at first, but it's hard to go back — ask anyone who owns a smart-

phone, tablet or computer with a high-PPI display. This isn't just about large screen sizes or those who sit uncomfortably close to their TV, either. While it is true that the minimum optimal viewing distance is far less with Ultra HD, the improved resolution is still very noticeable as we stepped back away from the screen. Even if you don't appreciate the difference and are concerned with the lack of native content, Ultra HD displays make passive 3D and multi-view displays possible at full 1080p.

It is going to take some time for all the pieces to come together, but all of the edges of the puzzle are already in place. There will probably never be another step in home entertainment display technology like HD, but Ultra HD sure seems like the next step towards the future where we have truly lifelike video at home. **D**

Richard Lawler contributed to this report.

Ben Drawbaugh is Associate HD Editor at Engadget, an HD snob, father, car guy and mountain biker.





The State of the Second Screen

Can TV
**COMPANION
APPS** win the
eyes of the
everyday viewer?
By **Alexis Santos**

If you let the rows of 3D and 4K displays lining the halls of CES paint a picture of the future of television, you'd be missing a vital component. Tucked away inside a pair of ballrooms on Sin City's famous Strip, representatives from television networks, software companies, cable providers and advertising firms held a powwow dubbed the Second Screen Summit to talk shop and discuss the



fate of such experiences after a very busy 2012.

Over the past year, companies ranging from AT&T to Nintendo created a wave of experiences to complement TV content. Even the 2012 Summer Olympics received the second-screen treatment with its very own Android and iOS apps, which let users catch live streams of events, access stats and more from the comfort of their couches. With so many solutions on the market, it's not entirely clear who will come out on top, or if there's room on the second screen for these myriad apps to coexist.

Second-screen efforts may not be something consumers everywhere are clamoring for — certainly some see them as distractions from TV watching — but according to industry players, the extra layer of content is welcome. CBS claims last year's Grammy's were the largest social TV event to date, racking up 13 million “social mentions” in the wilds of the internet. According to Rob Gelick, senior vice president and general manager of digital platforms for CBS Interactive, second-screen experiences exist in a space between marketing and content, and they've been “more wildly successful than we'd ever hoped.”

The broadcaster's initiative was so successful, in fact, that the firm rolled out a new iPad app this year dubbed CBS Connect, which infuses *NCIS: Los Angeles*, *CSI* and *Hawaii Five-O* with second-screen features. With an iPad in hand, *NCIS* fans can review evidence in-sync with the show, read up on suspects, rifle through maps, interact through social networks and more.

ONE APP TO RULE THEM ALL?

The raft of second-screen apps have poured in from the likes of cable providers, television networks, movie houses, startups and even old guards such as Yahoo. If you're starting to feel dizzyed by the selection, you're not alone.

Some in the space smell consolidation in the air, coming in the form of applications cooked up by cable providers such as AT&T and Dish Network, which are already serving up their takes. Alan Wolk, global lead analyst for KIT digital, a firm that builds these solutions, is one of them. In Wolk's



“Every Comcast, Verizon and AT&T will give you a tablet app that has all this remote control functionality on it.”

vision of the near future, cable companies will focus on using tablets that act as remote controls and TV guide replacements with baked-in second-screen experiences.

“Every Comcast, Verizon and AT&T will give you a tablet app that has all this remote control functionality on it,” explains Wolk. “They will then buy up whether it’s GetGlue, Viggie, Miso or whatever and it will all be incorporated into these different apps which they will use to compete with each other.”

KIT digital is working on making that version of the future a reality by working with a litter of cable providers and television networks. In fact, the firm helped construct AT&T’s U-verse service, which has an accompanying iPad app that can change a television’s channels, act as a TV guide and serve up relevant information about shows.

Even BitTorrent co-founder Ashwin Navin started a second-screen venture dubbed Flingo in 2008 to marry the web and TV. Last week at CES, the firm launched Samba: a platform that uses web APIs (instead of audio monitoring à la Shazam) to sync content on the second screen with the action on TV. Flingo is keen on partnering with set-top box makers, TV manufacturers and TV networks to build out second-screen experiences, and Navin sees show-specific apps holding their own, but third-party solutions like GetGlue going the way of the dodo.

“Second-screen strategies that are just one of half a million apps on the App Store, I think they’re dead,” Navin said. “The only thing that could really make that work is if they emerge in a very small niche. The things that try to be everything to everyone, I think that’s a very tough place too because it won’t be very relevant to the show and it

AT&T’s U-verse app for the iPhone provides extra programming info and guides while serving as a channel changer.



probably won't be relevant to every genre of content."

Wolk goes so far as to suggest that cable providers will focus on making tablets their main hardware presence in the living room instead of leaning on set-top boxes. He also estimates that tablets will be offered up on lease like set-top boxes, but pitched to consumers as "free."

A monolithic cable company app that provides a TV guide, changes channels and provides contextual information and interactivity for all TV shows — regardless of network affiliation — is a powerful force to contend with. Service providers would also be able to easily push out updates and target users with ads and content based on what their watching habits are across networks.

A unified experience provided by cable companies might make life easier, but relinquishing a measure of control is something that TV networks aren't necessarily keen on.

"Well, from a purely business perspective, I want everybody in a Fox app," said Hardie Tankersley, vice president of digital platforms at Fox Broadcasting. "I want to control the experience, I want to manage the advertising."

While Fox would love to see their first-party solutions become second-screen mainstays, it acknowledges that cable giants are likely to flex their consolidating muscle. "I don't think I can stop that," Tankersley said. "If I could get everybody who watches Fox to be in the Fox app, in the Fox world, I would definitely do that."

Rather than shut out third-party second-screen experiences and become complacent with first-party solutions, however, many networks are obliging to work with the likes of Comcast or AT&T.

"I'm going to try to create a premium experience inside

"If Comcast is going to be getting everybody to use their Comcast app, our shows need to look good in the Comcast app."



the branded Fox world,” Tankersley said. “I think I can do things where we can control the platform to be more richer, interesting, dynamic and tied more tightly with the content than a generic platform would. But I want to support those generic platforms because I want our content to look good in those worlds. If Comcast is going to be getting everybody to use their Comcast app, our shows need to look good in the Comcast app.”

Regardless of the uncertainty of their fate, networks continue to craft their own second-screen applications, hedging their bets and tempering their expectations.

“We’re investing what we think is enough to discover what’s going to work,” Tankersley explained. “We’re investing just enough to be in the game and to try to learn something about it.”

The Second Screen Summit at CES 2013 dives into the challenges facing the future of dual-display experiences.

According to Tankersley, Fox is currently providing second-screen content for six shows, with live programming requiring a fleet of people working every



week. In *American Idol*'s case, a team of roughly 15 people tailors the second-screen experience for each week's contest developments. For live shows, second-screen content creation happens when script ideas hit the page. In terms of popularity, it was the consensus among a panel of network executives that second-screen apps for live events — especially “tent pole” pieces of programming such as award ceremonies — typically attract the largest number of users. With the Super Bowl, for example, CBS is promising a second-screen app laden with stat updates, game highlights and alternate camera angles.

Networks are even beginning to brainstorm about what second-screen apps will do at the writing and production stages of TV show creation.

“For a produced show like *Bones* or *New Girl*, it starts with the origin of the script,” Tankersley said. “When the first script comes in we start planning with the show what the second-screen content is going to be, what the merchandise that we’ll sell is going to be and it gets developed in that writers room.”

CHASING THE MONEY

Since ads on live television are the reigning cash cow, it's typically the job of companion apps to drive eyeballs to programs as they air. According to Nielsen stats, \$266 billion dollars were spent on TV ads during the first half of 2012. On the other hand, Delivery Agent, a firm that

“Right now there's no money. Well, not meaningful amounts of money. We all have different theories about where it's going to come from, but we're all playing out those games.”



provides e-commerce platforms for major networks, says merchandising sales they handle for second-screen apps only rake in several hundred thousand dollars in each instance. However, networks are still interested in squeezing out additional dollars from second-screen experiences.

“Right now there’s no money,” Tankersley confessed. “Well, not meaningful amounts of money. We all have different theories about where it’s going to come from, but we’re all playing out those games.”

Second-screen apps don’t rake in a significant amount of cash because they’re still in the nascent stages of attract-

ing users and nailing down solid business models. In fact, a recent second-screen initiative for *The Next Iron Chef: Redemption* was only used by at most 3,000 people each week for eight weeks, according to Channing Dawson, a senior advisor of Scripps Networks Interactive. Despite a weak showing, Dawson claims those who did participate expected similar experiences for other shows and were disappointed when they didn’t find them.

Though money generated from second-screen apps is a drop in the proverbial bucket for networks, in-app merchandising appears to be a more lucrative strategy than advertising during the early stages of second-screen adoption. Being able to buy the same clothes and knickknacks your favorite character owns takes a lot of planning on the part of networks, but it shows promise. According to Delivery Agent, the second screen is set to get a shot in the arm from merch cash.

“I’ve had several of the networks compare what they’re doing now in the second-screen world and on other platforms like that to what they were doing in their first two, three, four years of the web, and it’s well above that,” said



Slingbox recently announced its own app called Slingbox Companion, which is intended to help users navigate channels, find shows and connect on social networks.



Jody Stark, senior vice president of business development at Delivery Agent. “If you extrapolate that out 10 years, if this industry is doing what the web was, I think we’re going to have some very nice days ahead of us all.”

SECOND CONTENDERS

Cable providers and networks seem well positioned to benefit from second-screen efforts, but another faction exists: hardware manufacturers. Television makers including LG and Samsung could potentially make a splash with solid second-screen experiences to their lines of smart TVs, but they may be better-suited to focus on providing content for their single screen.

“The TV is remaining to be just the display,” Alex Iskold, CEO and founder of GetGlue, said. “I mean, there are definitely apps on TV that makes sense. To me, the apps that make sense are Netflix, Hulu, HBO Go. Things that we watch. ... You may want to get a notification that a friend is watching too, but really, it has to all reflect back to the iPad. I wouldn’t beef up the first screen with much stuff.”

Sure, television makers have the advantage in that a TV is a necessary part of the equation, but the development and adoption of new hardware is typically a slow and arduous process, even for set-top boxes (see: Google TV). Slingbox unveiled its very own iPad app last week called Slingbox Companion that promises to help users track down shows, reach out through social networks and

flip through channels. Even gaming hardware has edged into the second-screen game: Nintendo’s TVii app and Microsoft’s Xbox SmartGlass. A surprise from a newcomer or other established player (read: Apple) could upend the table as well.

Software firms, however, appear poised to benefit no matter who winds up being the largest purveyor of second-screen experiences. As

Microsoft’s SmartGlass offers a second-screen experience for TV viewing and adds extras for Xbox gaming sessions.



middlemen, they'll be able to provide much of the technology behind second-screen apps regardless of platform. Flingo, for example, hopes to bake in support for its web-based second-screen experience in TVs and set-top boxes, and open it up to networks for customization. Shazam, known for helping you name that tune with its audio-scanning app, licenses its tech to those interested in triggering in-app events at certain times during a program.

WHAT'S THE RUB?

It's clear that everyone wants a foothold in the living room, and many outfits would love nothing more than to crown themselves king, or at least control as much content as possible. While there will likely be a long-term effort to consolidate second-screen experiences into fewer platforms, the nature of the modern app economy means the near future will see the ecosystem continue to grow and diversify, bombarding us with even more newcomers and apps. Just take a gander at Google Play and the App Store and you'll find numerous apps that tackle the same problems and pack similar features, but vary in execution. Need a digital lighter to hold up at a concert? The App Store has dozens.

Since an ever-growing number of people carry second

screens in their pockets and shoulder bags every day, apps are bound to continue proliferating as factions vie for more eyeballs and a cut of the revenue. Concerted efforts towards consolidation are sure to occur, but we're still very much in the wild west of the second screen. **D**

Alexis is a Contributing Editor at Engadget who has a penchant for collecting outdated hardware.

Flingo's web-based Samba app recommends programming while offering a library of interactive tools and added info on the cast and crew.



**CES
2013
WRAP-
UP**

FESC

VISUALIZED

DISTRO
01.18.13

MEET THE MAKERBOTS



AUSTIN MAANN



PHOTOGRAPH BY BEAU BUMPAS

THE TRAVEL PHOTOGRAPHER & FOUNDER OF WELD talks about bonding with Bondi and Cadillac de Ville carphones.

What gadget do you depend on most?
To no surprise, I'd have to say my iPhone. It travels with me everywhere I go. It serves as my phone,



navigator, camera, note-taking device, alarm clock, portfolio, spontaneous off-camera lighting, travel organizer, electronic door opener and more.

Which do you look back upon most fondly?

The original Bondi Blue iMac that came out in August of 1998. In May of that year, my dad came into my classroom on the last day of school and showed me a print-out of it in all its green glory.

As an 11-year-old obsessed with all things digital and constantly craving more speed than the Apple IIsi could offer me, I couldn't take my mind off of it. I went straight home and made a flyer for a lawn-mowing business with one goal in mind for the summer: \$1299 to buy my own iMac.

I mowed all summer long and at the end of the summer, between mowing lawns and working a bit online I scrounged together around \$1200. My dad helped pay

“I went straight home and made a flyer for a lawn-mowing business with one goal in mind for the summer: \$1299 to buy my own iMac.”

the rest and in September of that year I had my very first Mac. It had a groundbreaking new technology called Universal Serial Bus (USB), a 4.2GB hard drive, a 13.8-inch viewable CRT screen. It was even so futuristic that it ditched the floppy drive all together.

I worked on that machine for thousands of hours... On that Mac I started building websites, hacked apps with ResEdit, played *StarCraft*, polished my skills in Photoshop and so much more. Now 13 Macs later, that original iMac still holds the dearest place in my heart.

Which company does the most to push the industry?

It's no secret that I'm an Apple fan... they seem to constantly be pushing the industry. They were responsible for the widespread adoption of the mouse, to deliberately cut out the floppy drive in a consumer machine (iMac in 1998), the first to boldly ditch the CD-ROM, the first to put one button [on] a smartphone and so much more ...

To jump off that bandwagon for a second, I'd have to say Kickstarter because it enables the little guy — the dreamer — to really create



“The ability to ‘squirt’ music from one Zune to the next has got to be the worst verbiage ever chosen for any device ever in the history of the world.”

his or her dream. Devices are being built out of vision and passion instead of just because it’s a good business model and with that comes great innovation and ingenuity, even if the business model isn’t sustainable.

What is your operating system of choice?

Mac OS X. For a long time I would have answered Mac OS 8.1 but OS X finally took over as reigning all-time king ;-)

What are your favorite gadget names?

Nest is great... short, simple and easy to spell... it also harkens to the warmth & comfortability of a place that feels like home. Also MiFi is clever, simple and to the point.

What are your least favorite?

Zune and the ability to “squirt” music from one Zune to the next has to be the worst verbiage ever chosen for any device ever in the history of the world.

Which app do you depend on most?

Google Maps. I didn’t upgrade to iOS six for months just because I truly needed a better map application.

What traits do you most deplore in a smartphone?

It takes people away from the present. It’s such an amazing tool that allows us to be anywhere at any time, connecting with people all over the world, but it pulls us away from the here and now. The truth is, many of the people we interact with on our smartphones we don’t even know personally (Instagram, Twitter, etc.) and most likely never will, but for some reason we are often sucked into those surface-level interactions on a smartphone more so than being present in a physical space with the loved ones we hold most dear.

Which do you most admire?

To springboard off the previous answer, I admire most how my smartphone allows me to stay in touch with loved ones while traveling. I’m constantly away and traveling and I never feel too far away because



I'm able to email with, talk with and even see my community via FaceTime. It's truly a gift that I will never take for granted. I also admire [the] extraordinary feat of packing in so much complexity and capability inside such an aesthetically simple device.

What is your idea of the perfect device?

Fun to use, enabling, innovative, efficient, reliable, simple.

What is your earliest gadget memory?

My grandmother got a pre-ordered 1987 Cadillac de Ville and shortly after got a car phone. I can remember seeing it when it was installed and I specifically remember noting the speakerphone in the top left of the car near the visor and processing why it was there. I also remember the black phone with green buttons and the loud number tones over the car speakers. I would have been about two years old.

What technological advancement do you most admire?

Flight and WiFi connectivity on

airplanes. It's amazing to think about sitting in a giant metal tube flying 600 MPH at least 10,000 feet above the earth, yet still connected and having the entire globe at our fingertips. Seriously, it blows my mind every flight.

Which do you most despise?

WiFi connectivity on airplanes.

I used to disconnect every flight and change rhythms but now, although it's super great, it's more of the same. It also means people Skype while sitting next to me, and there's less and less peace and quiet.

What fault are you most tolerant of in a gadget?

Apple's Mail failures. Mail plays an enormous role for any freelance creative; in fact I use a cool little app called Time Sink that tracks which apps are in the foreground most on your Mac. It's telling me that I'm using Apple Mail nearly four times

“It's amazing to think about sitting in a giant metal tube flying 600 MPH at least 10,000 feet above the earth, yet still connected and having the entire globe at our fingertips.”



as much as Photoshop.

I'm sure Apple knows the extent to which this app is used and I know they've put a lot of work into Mail, but it has numerous flaws. Search is super inconsistent. Every day I search for something that I know is there from the previous day, yet it only finds results [from] months ago. Also sometimes when I'm sending emails, the first one will go out just fine and then I'll send one a couple minutes later to the same person and it gets held up and just flat out won't send ... super frustrating. Lastly, sometimes when I sort my emails with attachments, many of them that actually have attachments don't show up when sorting this way thus rendering sorting by attachments useless. I could go on. :-)

However, I still use Mail like crazy so I guess that makes me tolerant... but only because I've yet to find any viable alternatives.

“Any gadget that overcomplicates a simple task I immediately veto with little or no mercy... a gadget should simplify complex tasks.”

Which are you most intolerant of?

Any gadget that overcomplicates a simple task I immediately veto with little or no mercy... a gadget should simplify complex tasks, not the other way around. A good example: electronic salt and pepper shakers. If I ever had to replace batteries on a shaker just to salt my own food, you can bet it'd be in the trash in a heartbeat.

When has your smartphone been of the most help?

Hard to pick out the stories, but one of my favorites took place in West Africa. I was on my way into a French-speaking country that was fairly strict in customs. Often times in West African countries they request a phone number for a local within in the country, in case, for some reason, they want to get in touch with you.

In this case, I was on a project and hadn't met the client yet and I didn't have a phone number for my contact in the country. As I passed through customs, the officer asked me for a phone number — this had happened to me before and I usually just scribble down my US number or something else and they move me along.

In this case, the officer took



one look at the number and saw it didn't have a local prefix and said I needed another one, so I tried other numbers I had picked up in Africa but she wouldn't have it. I try to schmooze and smile my way through for like half an hour until eventually she said if I didn't have a local phone number, I'd have to stay the night at the airport.

Standing there super frustrated, I concocted a plan. I pulled out my iPhone and flipped on data roaming, praying some sort of data network would pop up. I waited and it finally connected to an EDGE network. When it did, I Googled "Phone numbers for [country name]."

Immediately a hoard of local numbers popped up... I said "Ohhh I think I've found the number for you right here in

"I try to schmooze and smile my way through for like half an hour until eventually she said if I didn't have a local phone number, I'd have to stay the night at the airport."

my phone!" I then read off the first one on the list. She wrote it down, stamped my passport and told me to have a good night.

What device do you covet most?

Leica M10 or Hasselblad H5D.

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

500 percent better battery.

What does being connected mean to you?


To me being connected is having a decent online connection. Phone service isn't nearly as important... as far as I'm concerned, if I don't have access to the web, I'm not connected.

When are you least likely to reply to an email?

Least likely time of day: 8 AM. I'm sleeping. At 7 AM I could still be working from the previous night and at 9 AM I'm waking up replying to emails on my phone. ;-)

Least likely type of email: a giant block of text with no spaces / paragraphs.

When did you last disconnect?

As a travel photographer working mostly in the developing world, disconnecting is frequently mandatory. The last time I was out of communication was in Fiji in October. 



The week that was in 140 characters or less

Tangible Tunes and Complaints at 10,000 Feet

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REHASHED

@martinbrent

I'm no Luddite but how can downloading a tune be better than owning the disk? Downloads are just dull if you ask me....#HMV

@OhJWOWW

That moment when you realize the last time Justin Timberlake released music, MySpace was relevant and the iPhone didn't exist.

@davepell

United to add WiFi to overseas flights. The Internet finally reaches its potential. We can complain about United in realtime.

@samhillnz

So did google run over that donkey or not?

@Jason

Really @facebook's graph tool feels like a stalker tool: 'find women single who like indian food and went to Harvard...' oh wait, I get it

THE STRIP

BY SEAN PRYOR



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