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This Week's Stories

More Than 70% Of Smartphone Apps Track Users, Study Finds

June 1, 2017

While smartphone users generally agree to share some kinds of data with software publishers when they download apps, many are giving up far more personal information than they realize, according to a team of information technology researchers.

One reason for this: while different apps request different specific permissions, many also share information with the same third-party libraries containing pre-written code to help developers track user engagement and earn money through display ads. And information shared through these libraries isn't usually transparent to users.

More than 70 percent of the 5,000 apps the researchers studied reported users' personal data to third-party companies. In fact, through its many tracking domain properties, Google parent company Alphabet alone collected user data from more than 48 percent of the apps studied, according to the researchers.

1 Out Of 4 Trackers Collects Unique Identifiers

Writing this week in *The Conversation*, Narseo Vallina-Rodriguez of the University of California-Berkeley's International Computer Science Institute and Princeton University computer scientist Srikanth Sundaresan described how they and five other researchers from several other organizations created a free Android app called the Lumen Privacy Monitor to gather data for their study. Published on the Google Play Store, the app has been downloaded and used by more than 1,600 people since October 2015.

"We discovered 598 Internet sites likely to be tracking users for advertising purposes, including social media services like Facebook, large Internet companies like Google and Yahoo, and online marketing companies under the umbrella of Internet service providers like Verizon Wireless," Vallina-Rodriguez and Sundaresan said. "We found that more than 70 percent of the apps we studied connected to at least one tracker, and 15 percent of them connected to five or more trackers."

What's more, the researchers found that one out of every four tracking sites was harvesting a unique identifier such as an IMEI number from users' devices. This enables trackers to "connect different types of personal data provided by different apps to a single person or device," Vallina-Rodriguez and Sundaresan said. In most cases, even privacy-savvy users would likely be unaware such data was being tracked.

'Users Need To Know'

By analyzing data collected via the Lumen Privacy Monitor, the researchers were also able to determine that over half of the trackers were able to identify mobile users across devices, meaning they could observe activity on Web sites as well as on apps. This could enable companies to develop "a much more complete profile of your online persona," Vallina-Rodriguez and Sundaresan noted.

The researchers also expressed concern about data being "shipped across national borders," often to countries with widespread surveillance or less-stringent privacy laws, and about some apps for children that were leaking unique identifiers that could be used to pinpoint their physical locations.

Tracking such information about children could violate Federal Trade Commission regulations, they said.

Vallina-Rodriguez and Sundaresan concluded that it could be hard to solve such app-related privacy issues. Blocking sensitive information could negatively affect app performance, and even shifting to a paid-app system wouldn't necessarily eliminate user tracking, they said.

"Our findings may be merely scratching the surface of what is likely to be a much larger problem that spans across regulatory jurisdictions, devices and platforms," the researchers wrote. "Transparency, education and strong regulatory frameworks are the key. Users need to know what information about them is being collected, by whom, and what it's being used for. Only then can we as a society decide what privacy protections are appropriate, and put them in place. Our findings, and those of many other researchers, can help turn the tables and track the trackers themselves."

mobile-tech-today.com

AT&T Ups Unlimited Game With \$70 Wireless And Video Bundle

June 1, 2017

AT&T has had its eye on bundle packages since its acquisition of DIRECTV, as executives honed in on integration of the carrier's video and wireless assets as a key strategy. The carrier first packaged traditional DIRECTV service with wireless back in the summer of 2015, and followed up with an offer of unlimited wireless for DIRECTV customers only in January 2016. But AT&T's latest bundle takes entertainment fully mobile with an offer that ties together unlimited wireless service and DIRECTV now for just \$70 per month.

Starting Thursday, AT&T customers on the carrier's \$60 per month (with AutoPay and paperless billing) Unlimited Choice plan will be able to add a DIRECTV Now "Live a Little" package for just \$10 per month. The latter video package normally runs \$35 per month on its own, but the carrier is offering a \$25 per month bill credit to customers who pick up the promotion.

The Live a Little package reportedly includes more than 60 popular TV channels and 10,000-plus on-demand shows and movies. DIRECTV Now can be streamed on both smartphones and tablets, and, as of Tuesday, viewed on a TV using a compatible devices like Roku, Amazon Fire TV, and Google Chromecast.

"Customers shouldn't settle for plain-old unlimited plans. With us, they can stream at least 60 live channels, as well as on-demand, premium channels, popular shows, and hit movies through DIRECTV Now," AT&T Entertainment Group's CMO David Christopher commented. "We're giving customers entertainment where, when, and how they want it."

Higher-tier customers on AT&T's \$90 per month Unlimited Plus plan will have the option to use their \$25 bill credit toward either DIRECTV Now, DIRECTV, or U-verse TV. Unlimited Plus customers will still have HBO thrown in for good measure and will also get 10 GB of high-speed data per line when they tether from their smartphone. AT&T first added HBO as a perk for its Unlimited Plus customers back in April. The Unlimited Plus plan at the time already included the \$25 monthly video credit for any AT&T video service.

The bundle offers aren't surprising given the surge in video traffic on the carrier's network. AT&T indicated video traffic surged 75 percent between 2015 and 2016, and now accounts for more than half the mobile traffic on its network. And AT&T is looking for a way to differentiate itself in what has been a highly competitive wireless market now saturated with unlimited offers.

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"Starting Thursday, AT&T customers on the carrier's \$60 per month (with AutoPay and paperless billing) Unlimited Choice plan will be able to add a DIRECTV Now "Live a Little" package for just \$10 per month."

But as with all unlimited plans, AT&T's offer does come with boundaries. The carrier said Unlimited Choice customers will have access to a max data speed of 3 Mbps and 480p definition video streaming on its LTE network. And – as before – that “unlimited” data may be subject to slower speeds after 22 GB of usage in a month.

wirelessweek.com

DIRECTV NOW Streaming Service Available On The Roku Platform

May 30, 2017

Roku Users With Supported Devices Can Stream A Free Month Of AT&T's Premium Video Content On DIRECTV NOW

Roku, Inc. today announced the availability of an early release of AT&T's video streaming service, DIRECTV NOW, on the select Roku® devices – Roku TV™ 4K models, the Roku Ultra, Roku Premiere+, Roku Premiere, Roku Express, Roku Express+, Roku Streaming Stick (model 3600R), Roku 4, Roku 3 and Roku 2 (model 4210).

Beginning today, users of supported Roku devices in the U.S. can now stream more than 120 live channels, as well as on demand, premium channels, popular shows, and hit movies through DIRECTV NOW on Roku – all with no annual contract, no credit check and no satellite dish required.

A one month free trial of DIRECTV NOW will be offered to Roku customers who don't already have a DIRECTV NOW account. (After one month, customers will be auto-billed a minimum of \$35/month - unless canceled.)

Customers can visit the Roku blog for more details on how to take advantage of this offer.

“Roku is a leader in streaming entertainment and millions of homes in the U.S. have Roku devices,” said Brad Bentley, executive vice president and chief marketing officer, AT&T Entertainment Group.

“DIRECTV NOW is about bringing customers entertainment their way, so launching on the Roku platform was an important part of our strategy.”

“AT&T's robust DIRECTV NOW service is an incredible offer for our customers who expect premium streaming entertainment at a great value,” said Steve Shannon, general manager, content and services, at Roku. “Getting consumers to the content they want the most has always been our focus.”

To access DIRECTV NOW on a supported Roku device, customers can sign up online for DIRECTV NOW and then download the channel from the Roku Channel store.

Within minutes of signing up, customers will have easy access to stream content over a U.S. internet connection on their Roku devices.

The Roku platform features more than 5,000 streaming channels and 450,000 movies and TV episodes. Roku has more than 14 million active user accounts as of the end of March 2017. Roku users streamed 3+ billion hours of video and music in the first quarter of 2017 alone.

businesswire.com

Products & Services

Apple's iPhone Could Give Augmented Reality A Jumpstart

June 2, 2017

The reality is augmented reality is slowly seeping into everyday technology use by millions of Americans. It just needs an iPhone power boost.

Last year's phenomenon of Pokémon Go — one of the most-downloaded apps worldwide in 2016 — and the popularity of Snapchat illustrated the potential of this technology to put mobile games and social networking into overdrive. The nascent tech, which overlays digital images onto the physical world (a park bench, your best friend, a pet), now gets down to business. The next iteration as envisioned by Google, Facebook and others could make it more practical for consumers and the businesses that serve them.

And Apple, which hosts its annual Worldwide Developers Conference (WWDC) in San Jose starting Monday, may soon join the party.

Imagine this: You point your smartphone camera at a restaurant, and restaurant reviews pop up over the photo. That's Google's vision for its yet-to-be released Lens technology. Or you could figure out how to fix a light switch — by receiving instructions that overlay your real-life project as you complete the task. That task is already simple for Microsoft's HoloLens glasses, though these remain expensive (\$3,000), limited to developers and tethered to a pricey computer.

There's some expectation that the next version of iPhone, expected in September or October, could include augmented reality (AR), giving the technology a burst of momentum. "Apple is the best-placed of all major tech companies to drive mobile AR," says Tim Merel, CEO of Digi-Capital, an AR/VR mergers-and-acquisitions adviser. He pegs the market at \$60 billion and 1 billion users by 2021.

"We believe AR in the next iPhone will be a turning point for the broader AR industry," says Gene Munster, head of research at Loup Ventures. The longtime Apple analyst predicts Apple will sell more than 100 million augmented units of the forthcoming iPhone, sometimes dubbed X or 10, and says it will go mainstream when 500 million units or more are sold.

That's "still a few years away," says Munster, who expects 3-D depth mapping on iPhone X. Such a function, for example, would let furniture shoppers envision a new chair replacing an old one in their home by peering at their phone screen.

Apple declined comment for this story, but its leader has made no secret of its interest in augmented reality — sometimes called distorted, or mixed reality.

"I regard (augmented reality) as a big idea like the smartphone," Apple CEO Tim Cook told The Independent newspaper during a trip to the UK in February. "The smartphone is for everyone. We don't have to think the iPhone is about a certain demographic or country or vertical market. It's for everyone. I think AR is that big. It's huge. I get excited because of the things that could be done that could improve a lot of lives."

Interest in augmented reality is keen among iPhone users, particularly millennials, according to a survey of 502 Americans in March by Loup Ventures. Of those who plan to purchase the 10th-anniversary edition of iPhone, 26% indicated an interest in AR features — 34% among those 18 to 29 years old.

That youth interest could be a stumbling block when it comes to eyewear, one of the prime vehicles for using the technology.

"You point your smartphone camera at a restaurant, and restaurant reviews pop up over the photo."

Glasses are pricey, and users have rejected clunky headsets like the iconic but failed Google Glass. Plus, a majority of the under-40 crowd does not wear corrective eyewear.

So an iPhone with built-in augmented reality could qualify as a wow moment for the technology. Augmented reality has slowly but surely gained moderate use and awareness, propelled by the emergence of Pokémon Go, Snapchat, HoloLens, start-up Magic Leap and Google's Tango augmented reality platform.

It's also expected to enhance experiences in specially tailored environments such as amusement parks and museums. In the everyday world, things should evolve — albeit glacially — as smartphones drive its use.

At its developer's conference in May, Google unfurled Google Lens, an AR feature that company CEO Sundar Pichai calls an "inflection point with vision." It relies on machine learning to turn a camera into a search box so, for example, a consumer can identify a type of flower by viewing it through the camera.

In April, Facebook underscored its intent to blend the physical and digital worlds through AR glasses or lenses by opening its camera effects platform to software developers. "We're making the camera the first augmented reality platform," Facebook CEO Mark Zuckerberg said at the F8 developer's conference in San Jose then. But that is years away: For now, Facebook's camera effects are confined to doctoring selfies with goofy masks, frames and filters.

Tech giants are plowing money into what they expect will be one of the next big leaps to how we communicate -- with ourselves and the vast reams of information they have on tap. In the first quarter of this year, companies bought 34 companies in artificial intelligence, the key component in augmented reality. That was more than twice that of the same period a year ago, according to market researcher CB Insights. Since 2012, Google has snapped up 11 AI start-ups, followed by Apple, Facebook and Intel.

usatoday.com

Android Founder Reveals \$699 'Essential' Smartphone

May 30, 2017

Andy Rubin, The Founder Of Android, Is Back With A New Phone.

On Tuesday, Rubin and his new company Essential Products unveiled a \$699 Android smartphone called the Essential phone.

The Essential has an edge-to-edge display that covers almost the entire front of the device. It also boasts the world's thinnest dual camera system "ever built for a phone," according to its website.

But it's a pair of dots on the side that set the phone apart. They're magnetic connectors that create a dock, designed to snap on and off various accessories. It's a concept called a "modular" phone that allows for swappable hardware pieces.

For now, Essential is offering a 360-degree camera accessory for an additional \$50. The company will also offer a cordless docking station in the near future. Rubin's former employer Google ended its own modular Project Ara experiment last year.

Meanwhile, Essential clearly set out to differentiate its offering in the competitive smartphone market dominated by Apple (AAPL, Tech30) and Samsung (SSNLF). Its phone features a titanium body and a ceramic back. Unlike aluminum -- which most phones are made of -- titanium is more resilient

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"It's a concept called a "modular" phone that allows for swappable hardware pieces."

and doesn't scratch, dent or bend. The device was drop-tested on solid concrete and survived without any scratches, unlike "the aluminum competitor devices," the company said.

The phone -- which comes in black, white, gray and a bluish green -- is available on Essential's website for pre-order starting Tuesday in the United States. It supports all U.S. carriers. The international release will be announced at a later date.

The new phone was first reported by The Verge and Wired. Rubin will speak at Recode's Code Conference on Tuesday night.

Essential is also launching an Amazon Echo competitor called "Home." Based on the website, it's a smart assistant with a big circular screen that can perform tasks like playing music or letting you know when a light was left on -- but further details remain unclear.

money.cnn.com

Emerging Technology

Nintendo's Switch Online Service Will Cost \$20 Per Year And Launch In 2018

June 2, 2017

Important news for Switch owners, Nintendo has spoken up to confirm a number of details around the online service for its new console.

Online is an essential component to gaming these days, and the Switch service will grant subscribers access to a library of classic games as well as unlocking the option to play with friends online, set up game appointments and chat. The second half of the feature set will come via a compatible mobile app, however, rather than being integrated into the Switch itself, but we already knew that.

Price-wise, the Nintendo Switch Online service will come in at \$19.99 per year when it launches fully in 2018. There will also be \$3.99 per month and \$7.99 per three month options for those who are more reluctant to commit. Those figures are in line with the company's previously announced pricing estimate. They also make the service some degree cheaper than the equivalents for Xbox and PlayStation, although Nintendo has traditionally offered up online services for free.

Ahead of the full launch, Nintendo will make a limited version available for free. That'll include the mobile app, which is scheduled for release this summer.

Finally, it's worth noting that Nintendo made a welcomed change to its package. Initially, it had planned to give online subscribers access to just one classic title each month, however it confirmed to Kotaku that this proposed limitation has been scrapped.

Here's what Nintendo said in full: Nintendo Switch Online subscribers will have ongoing access to a library of classic games with added online play. Users can play as many of the games as they want, as often as they like, as long as they have an active subscription.

Nintendo Switch Online subscribers will be able to play a wide variety of classic games, including Super Mario Bros. 3, Balloon Fight and Dr. Mario. More games will be announced at a later date. At launch the classic game library will include NES games. Super NES games continue to be under consideration, but we have nothing further to announce at this time.

techcrunch.com

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"Nintendo Switch Online subscribers will be able to play a wide variety of classic games, including Super Mario Bros. 3, Balloon Fight and Dr. Mario."

New Tech Humanizing Analytics For The Masses

June 2, 2017

We have entered the immersive age, where machines are controlled with human gestures and voice, and the concept presents an exciting future for analytics.

We are witnessing a fascinating change happening in analytics and across all industries. Novel immersive user experiences are just beginning to emerge that leverage artificial intelligence and human language. Natural Language Generation (NLG) is powering conversations between man and machine. NLG is empowering the masses.

In the industrial age, humans operated pedals, gearshifts, wheels, and switches. Machines would provide feedback via gauges or signals. In the information age, humans have interacted with machines by typing, pointing, clicking, or touching a screen. In the immersive age, machines will be controlled with human gestures and voice. These changes in human computer experiences will influence exciting future analytics product designs. In fact, it is already happening.

NLG technology is inspiring an entirely new generation of analytics solutions and supplementing traditional ones. With NLG search user interfaces, users can interact with data just as they would a simple Google search. This popular capability found in Thoughtspot and other offerings streamline basic data analysis by allowing users to ask questions of their data.

Taking it one step further, NLG user interfaces with added voice text-to-speech (TTS) are popping up in analytics “bots”. These solutions are enabled by technologies such as Alexa. Alexa is the Amazon service that allows humans to interact with devices using voice.

Analytics savvy NLG APIs such as Narrative Science's Quill or Automated Insights Wordsmith are also game changing. These solutions can automate identifying insights from data and explain findings. They are being used right now in healthcare, insurance, news, sports, financial services, business intelligence and CRM applications. Narrative Science demonstrated the combination of NLG with TTS for analytics at the 2017 Gartner Data & Analytics Conference.

We first got a glimpse into what NLG could do for analytics when innovative BeyondCore, acquired by Salesforce in September 2016 and incorporated into Salesforce Analytics Cloud Einstein, entered the market. BeyondCore automated diagnostic, predictive and prescriptive insights.

The Hidden Benefits

The most compelling aspect of that application was not analytics automation. It was the user-friendly advanced analytics explanations with recommendations. Previously only data scientists might be able to interpret the output. By making complex analytics concepts easy for anyone to understand, knowledge that was once limited to a select few could finally be extended to everyone.

Automatically discovering and explaining insights with NLG is valuable. It clearly saves time when compared to manual approaches. Less apparently, NLG also reduces potential reporting bias. Humans may not realize the many hidden biases in data collection and interpretation of analysis. From selective perception to outcome bias, machines should minimize analytics bias since they are not motivated to manipulate the data. Unlike humans, machines cannot tell a lie.

Another amazing aspect of applying NLG to analytics is the ability to provide human context. Anyone that practices analytics knows context is key. When combined with artificial intelligence, historical usage data, prior questions, prior decisions, location and other important semantics, NLG-enabled analytics can personalize what the numbers actually mean. Unbiased explanations of insights that are communicated with a rich, nuanced understanding of your organization and people is invaluable.

NLG and text-to-speech (TTS) are both growth areas with exciting potential for significant disruptive innovation to humanize numerous applications. Research firm Markets and Markets has valued the global TTS market at \$1.3 billion and predicts that it will reach \$3.03 billion by 2022, growing at a compound annual rate of 15.2%. TTS is already widely used in smartphones for navigation, personal assistant apps and in laptops and televisions to help blind people access programs and information. Digital transformation and additional machine learning applications will further contribute to the advancement of humanizing analytics.

Imagine the plethora of awesome analytics applications that are shelf-ware today because they are too difficult or overwhelming for the masses to use. Adding NLG to those apps may be the secret to building a true data-driven culture. Natural user interfaces do represent the next major disruption in computing.

informationweek.com

Mergers and Acquisitions

T-Mobile Tries Out Its Sprint Pitch On Wall Street As Talks Get Under Way

June 2, 2017

T-Mobile US Inc. executives, in a series of public appearances and private meetings with investors over the past two weeks, have been talking up the potential for tens of billions of dollars in savings through a merger with Sprint Corp., laying the groundwork amid preliminary deal talks.

In discussions with shareholders, T-Mobile has highlighted Sprint's \$20 billion in tax credits, according to people familiar with the matter. Chief Financial Officer Braxton Carter told the audience at a JPMorgan Chase & Co. conference last week that a merger with Sprint could yield more than \$30 billion in cost savings while "turbo-charging" T-Mobile's ability to challenge larger rivals -- a message aimed at both Wall Street and Washington.

While the discussions between T-Mobile parent Deutsche Telekom AG and Sprint owner SoftBank Group Corp. are still in an early stage, the efforts to play up the benefits of a Sprint merger are a trial balloon to gauge how open investors and regulators are to the idea. Both could still consider other options like a deal with Dish Network Corp., said the people familiar with the matter, asking not to be identified discussing private information.

The structure and valuation of a deal, which revives a merger plan that was shelved in 2014 due to regulatory opposition under former President Barack Obama, still remains to be solved. Through Thursday, Sprint stock was up 128 percent and T-Mobile had risen 59 percent in the past year, despite a fierce price war, as both companies gained subscribers and investors bet Donald Trump's administration would look more favorably on a combination.

"They are crafting a message to take to D.C.," said Jennifer Fritzsche, a Wells Fargo analyst. "The burden of proof will be to show why this is going to be better for the U.S. wireless consumer, because for the last four years the industry has been good for the consumer."

Sprint rose as much as 1.9 percent to \$8.71 on Friday, the highest intraday price in a month, while T-Mobile was up less than 1 percent to \$68.11.

"Chief Financial Officer Braxton Carter told the audience at a JPMorgan Chase & Co. conference last week that a merger with Sprint could yield more than \$30 billion in cost savings while "turbo-charging" T-Mobile's ability to challenge larger rivals -- a message aimed at both Wall Street and Washington."

The Hurdles

To help on that front, Sprint Chief Executive Officer Marcelo Claure was in Washington late last month visiting with government officials. The trip went “really well,” Claure said in an interview last week. “I talked to a lot of good people. I told them about 5G.”

Claure is building on an argument first presented to Washington three years ago by SoftBank Chairman Masayoshi Son. The idea is that Sprint and T-Mobile will create not only a stronger third wireless player, but use advanced 5G high-speed technology to deliver the sort of data and video service that would compete with cable companies.

President Trump’s appointment to head the Federal Communications Commission, Ajit Pai, has already signaled an openness to a tie-up between the No. 3 and No. 4 carriers, and the nominee to lead the Justice Department’s antitrust division, Makan Delrahim, has said he doesn’t have preconceived notions about the ideal number of competitors in a market.

That is a significant departure from the regulators’ stance during the Obama administration, where they held a strong preference for an industry with four major players. Awkwardly, Sprint has bolstered the previous administration’s argument by offering aggressive discounts, forcing competitors to cut their own rates and lowering wireless costs for U.S. consumers. The company has said prices will have to come up over time.

Another potential problem for the deal is that the companies would need to eliminate overlapping positions to achieve cost-cutting goals. The promise of keeping and creating jobs not only helped propel Trump’s populist campaign, it has been one of the most consistent themes of his economic agenda.

One way to help deflect attention from staff cuts would be to talk about jobs created. T-Mobile could highlight the thousands of new jobs coming with the planned opening of 1,500 stores this year, and 1,500 each of the next two years. Similarly, Sprint pledged to return 5,000 jobs to the U.S. in December. That was preceded by the promise of SoftBank’s Son to Trump that he would help create 50,000 jobs related to a \$50 billion tech investment in the U.S.

Hidden Assets

Sprint is under pressure to get a deal done sooner rather than later. The Overland Park, Kansas-based company has more than \$11 billion of debt maturities due through 2020. It has \$1.3 billion of bonds due this year, and \$3 billion that mature in 2018. It will also make \$2 billion in interest payments alone this year.

Sprint hasn’t had a profitable year in a decade, leaving a pile of credits from net operating losses that could benefit T-Mobile, though some of those tax credits are so old they are starting to expire. In its annual report to U.S. regulators last week, Sprint said its total NOL tax credits dropped to \$16.4 billion from \$19.6 billion a year earlier.

The company controls the largest holding of 2.5 gigahertz airwave licenses in the U.S., a “crown jewel” that has been obscured inside a money-losing business. SoftBank’s Son has considered measures like a spinoff of Sprint’s airwaves to help extract some of that value.

“The spectrum Sprint brings to the table is a key asset,” Fritzsche said. “I don’t think SoftBank and Sprint have felt that the 2.5 gigahertz is fully valued by the street.”

Deutsche Telekom CEO Tim Hoettges told investors this week his company is in a “position of strength” in the U.S. and has multiple options for how to proceed in the market.

While they may still be considering other deals, T-Mobile and Sprint have begun to sound as if they are talking from the same script. Even T-Mobile, which once said Sprint faced “a challenge of physics” to deploy 2.5 gigahertz spectrum, is now talking about the benefits of the asset.

“We have the densest network in the U.S. at this point,” Carter, the T-Mobile CFO, said at the JPMorgan conference last week. “You take the Sprint assets, you combine the two networks to have tremendous density. Then put the 2.5 in, and what that could do for 5G is give you massive future capex avoidance as this develops, and significant differentiation against the competition.”

The two rivals suddenly have a common vision.

“There’s been an interesting change in tone in T-Mobile’s messaging about 2.5 gigahertz,” Fritzsche said. “Before, it was unwanted and now it’s a treasure trove.”

bloomberg.com

Cable Giant Charter Rejected A \$100 Billion Buyout Bid From Verizon, Sources Say

June 1, 2017

Verizon Is Scrambling To Grow Its Scale In A Rapidly Consolidating Sector

Verizon boss Lowell McAdam, his company facing slowing sales of mobile phones, made a proposal to acquire cable-TV giant Charter Communications in recent months, three sources told The Post.

The offer — valued at between \$350 and \$400 a share, and well over \$100 billion, according to two of the sources familiar with the move — was rejected by Liberty Media-controlled Charter CHTR, because it was too low — and because Charter was not ready to sell.

Verizon, whose archrival AT&T, has moved to expand beyond the wireless world by buying DIRECTV and Time Warner, also recently expressed interest in another Liberty Media property, Sirius XM Holdings, sources said.

Verizon’s interest in SiriusXM didn’t get as far as a bid, the sources said.

Also standing in the way of Liberty Media agreeing to a deal for any of its units is the tax implications, which would be unpalatable to its billionaire chairman John Malone, sources said.

Malone is famous for avoiding taxes in big transactions.

In addition, Malone wants to give New York-based Charter some time to complete the integration of its acquisition of Time Warner Cable, sources said.

Charter’s stock has been on a tear since Liberty took a stake in the firm in March 2013 and drafted former Cablevision chief operating officer Tom Rutledge as the boss. The shares have soared roughly 262 percent through Wednesday’s close at \$345.55, up 2 percent on the day.

Verizon, whose interest in acquiring a cable giant like Charter or Comcast was reported by The Post in January, is scrambling to grow its scale in a rapidly consolidating sector.

Verizon shares added 1 percent Wednesday to close at \$46.64. Verizon declined comment.

marketwatch.com

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“Verizon, whose interest in acquiring a cable giant like Charter or Comcast was reported by The Post in January, is scrambling to grow its scale in a rapidly consolidating sector.”

Industry Reports

Here's What To Expect From Apple's Big Event Next Week

June 2, 2017

Apple's Going To Have A Lot Of Big News To Share Next Week.

The company's developer conference, known as WWDC, kicks off with a keynote on Monday at 10 a.m. PST, when we expect Apple to discuss new hardware and software.

This is the time of year when Apple typically unveils new software that will power its upcoming Macs, iPhones and iPads — but we may also get a taste of new products we've never seen before.

It's almost a certain that Apple will reveal its new iOS 11 operating system ahead of its new iPhone launch later this fall. The tech giant typically unveils the fresh version of iOS during WWDC and then runs it through developer testing to around September when it pushes it out for everyone to use. Little is known about what Apple will include in iOS 11, but we're hoping to see improvements to Siri, which has started to lag behind competitors like Google Assistant and even Amazon Alexa.

Apple will also likely unveil the next version of macOS. The current version, macOS Sierra, was introduced last year when Apple officially departed from the "OS X" moniker for its operating system. Again, like iOS 11, we're not quite sure what to expect in terms of new features just yet. I hope to at least see Siri play an even deeper role in the desktop operating system, too, with more new controls that could make it easier to manage your Mac with voice.

Those two, the iOS and macOS updates, are the safest bets. Now let's talk a bit about hardware, which may or may not happen.

MacBook And MacBook Pro Refreshes

Apple's MacBooks are overdue for a refresh to Intel's latest seventh-generation processors, which are already in machines from PC makers. We should see Apple update the MacBook Pro, the MacBook Pro with Touch Bar and the thin-and-light MacBook with the new chips, Bloomberg said earlier this month.

We might even see the MacBook Air updated with the new chips, though that computer is showing its age with an old display and ports that aren't as fast as newer ones. Apple may just kill it off entirely.

Also, Apple's iMac and Mac Pro desktop computers are desperately in need of a refresh. Apple has said it'll refresh the Mac Pro, but I don't think we'll see it next week.

New 10.5-Inch iPad Pro And Refreshed 12.9-inch iPad Pro

Supply chain reports have long suggested Apple is working to build a 10.5-inch iPad Pro that would replace the existing 9.7-inch iPad Pro. It's the first time Apple has ever launched a 10.5-inch iPad Pro, so we'll be curious to hear what the company's argument is for boosting the size. Apple is also expected to announce a new 12.9-inch iPad Pro, replacing last year's model.

Expect more powerful graphics, faster processors and maybe even redesigns where the screen takes up more space on the front of the iPad. I wouldn't be surprised if Apple talked about the Apple Pencil, too, perhaps with a refresh to a newer model.

A Siri Smart Speaker

The big news could be Apple's entrance into the smart home assistant market. Bloomberg said earlier this week that Apple may unveil a new smart home speaker that's powered by Siri and will compete with Google Home and Amazon Alexa. The speaker will reportedly offer surround-sound effects and better audio than the Echo or Home, which suggests it may also be more expensive. Part of me is hoping it'll sound as good as a Sonos Play: 1 speaker. Unlike Google and Amazon, however, Siri doesn't really allow for ordering of goods or support for playing tunes through third-party music applications like Spotify. I'm curious to see how Apple will position this if it's locked down to the Apple ecosystem of products, like Apple Music.

TvOS, WebOS, WatchOS, HomeKit And HealthKit

Given the software focus of a developer conference, Apple may dive into a variety of other topics including its smart home platform HomeKit, its health platform HealthKit, tvOS for the Apple TV, watchOS for the Apple Watch and maybe a bit on Apple CarPlay. Speaking of the Apple TV, Apple has been reportedly trying to establish streaming TV deals for a while now, but I'd be surprised if anything came to fruition next week. Finally, my guess is we'll hear a bit more about original content, like Apple's first shows "Carpool Karaoke" and "Planet of the Apps."

No iPhones

Finally, if you're hoping for new iPhones, you'll need to wait a few more months. Apple will probably stick to its regular schedule of launching new iPhones in September.

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Shifting Gears: The Future Of Automobiles

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One only has to see the latest news from automotive upstarts like Tesla, Uber and Alphabet's Waymo — or even from evolving industry stalwarts like GM — to know that the very concept of automobiles is undergoing rapid change. While developments around self-driving autonomous vehicles might garner the most attention, there are a number of other shifts occurring that are fundamentally altering how cars are designed, made, and used — helping to shape the future of cars themselves.

Design Gets An Assist

The idea of a car's final shape and form being guided solely by the vision in a designer's head is being tweaked by the advent of generative design. Using generative design software allows designers and engineers to input design goals along with parameters such as materials, manufacturing methods, and cost constraints; the software then comes up with thousands of potential solutions that meet those goals. This design approach can greatly assist with lightweighting, reducing the overall weight of components to improve fuel efficiency and handling. (Briggs Automotive Company has had particular success using Autodesk software to make the suspension of its customized, single-seater BAC Mono as lightweight as possible while providing uncompromising performance.)

Generative design can further evolve to encompass larger elements of the car. For example, manufacturing company Hack Rod used Autodesk's generative design software, Project Dreamcatcher, to produce an optimally performing chassis for its La Bandita Speedster, after feeding the system massive amounts of performance data collected during previous road tests.

Because generative design is capable of producing shapes and forms the human mind might not even imagine, it also has huge potential to evolve cars from an aesthetic perspective. Grills, vents, and

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"Fortunately, innovative materials and manufacturing methods are providing the industry with new ways to fabricate."

other adornments might take the shape of unfamiliar, flowing, organic patterns — while car bodies themselves could assume “outside the box” appearances. All this attention to the exteriors of cars shouldn’t obscure the fact that designers will also need to pay particular attention to the interior of cars in the coming decades. As autonomous vehicles move into the mainstream, we will shift to riding as passengers rather than drivers — which changes the experience inside the car.

Maybe business travelers will want to have vehicles function as full-fledged mobile offices, with high-speed internet, video conferencing systems, and gesture-controlled screens that allow them to flip through their documents and files like Tom Cruise in “Minority Report”. Families might want to turn the car into a traveling movie theater with surround sound and full-height screens to keep young children entertained on long road trips. Location-based services could add an educational aspect to these family car rides by sensing the car’s location and beaming interesting factoids or historical information about the surrounding area onto the car’s screens.

In either case, there’s lots of room for innovation in the human-machine interface and the ways that humans interact with their cars as vehicles become massively more digital. Virtual reality will play a big role here by providing an immersive environment for automakers that helps them simulate and experience a passenger’s journey firsthand and allows them to effectively design for this new consumer experience.

Fabrication Gets Futuristic

Coming up with innovative designs is one thing — making them a physical reality is another matter. Fortunately, innovative materials and manufacturing methods are providing the industry with new ways to fabricate.

In 1980, designers could choose from about 60,000 different materials to work with. Today, the number is well over 300,000 — and it will likely double within a decade. For example, carbon composite materials are showing strong potential in the automotive space for their lightweighting capabilities. Even more intriguing, there is research being done around smart composites that are able to sense and communicate the stress that they’re under — information that can be extremely useful in understanding and improving vehicle performance. Thanks to new forms of additive manufacturing, automotive manufacturers can quickly and easily generate components for their vehicles without a large upfront investment in tooling. In cases where generative design has been used for these components, additive is often a matter of necessity: many of the complex forms and shapes that generative design produces are simply impossible to make with traditional manufacturing methods.

Beyond materials and manufacturing methods, it’s likely that robots will increasingly be a part of how cars get made. In 2015, roughly 2 million multipurpose industrial robots were in use; by 2020, another half-million will be in service. Their sophistication and ubiquity has changed how we make things at an industrial scale.

Machine learning gives robots the ability to “see” and “think” for themselves, so that they’re not constrained by their original programming. In an automotive setting, a multi-functional robot can instantly switch from adding material to machining and polishing that material as needed. Taking this machine learning approach even further up the production chain, automotive manufacturers are now able to provide intelligent, self-monitoring production lines and connected smart factories.

Uses Emerge And Evolve

As surely as the way cars are designed and made is evolving, so too are the ways they are used. This change goes beyond the rise of autonomous vehicles — and our shift from drivers to passengers — to incorporate entire changes in usage patterns around automobiles. In the 20th century, people purchased cars, dutifully filled them up at gas stations, and happily purchased whatever products the

major automotive companies were offering, without regard for individualization or customization. All of that is changing.

For starters, the world is rapidly moving away from “car ownership.” Young adults and urban dwellers prefer paying for rides on an as-needed basis — via ride services like Uber and Lyft, or car share services like Zipcar — rather than paying a large, upfront amount to own a vehicle. There is an opportunity here for carmakers to use design to create products that appeal to multiple distinct audiences and use cases, including the conventional car buyer who is keen on the ownership experience, the ride-sharing user who wants a quick and affordable ride, and everyone in between.

Meanwhile, new electric drivetrains, combined with new types of batteries, will make electric vehicles an increasingly common presence on the roads — to the point where the next generation might have to explain to their children what “filling up at the pump” means. Design and engineering software will be important here in designing batteries with superior storage capacity and performance — helping extend the range that electric vehicles can travel, increasing their viability as a mobility solution.

Last, it’s easy to see how different regions might have different automotive needs, leading to regional variations on car production rather than a “one size fits all” approach. A country like Namibia, for example, might locally design automobiles that are specifically designed for desert conditions. Across the globe, a hilly urban environment like San Francisco might locally design vehicles that will suit their unique needs — allowing cars and the ways they are used to evolve in surprising and inventive ways. This trend toward customization could eventually mean total personalization of vehicles based on a driver’s unique needs. Think of cars that are specifically optimized based on a driver’s height and weight, or age, or even whether they’re left-handed instead of right-handed. Every aspect of the car could be customized based on user preferences and requirements, and then manufactured on demand. It’s a heady possibility.

The Road Ahead

A lot has happened since Henry Ford set up an automated production line and turned out a Model T for public consumption. Today, automakers are facing changes that their predecessors never could have anticipated around how cars are designed, made, and used. These trends are part of a wider future of making things that will impact auto making in huge ways in the decade ahead. But with innovative thinking and the right technology, car manufacturers will be able to seize the opportunities created by this seismic shift and continue to drive the industry forward.

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