

Vol.1 Issue 10, Apr 2019

# Newsletter



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*Adding the term "technical" can make anything seem complex, but the process of writing a technical newsletter can be deciphered. Remember, the point of technical writing is to transform the complex so it's easily understood.....!*

**TECHNICAL NEWS****Department of Computer Applications**

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*Newsletter***Facebook confirms it's working on an Alexa-like virtual assistant**

**F**acebook has confirmed that a voice based virtual assistant is in the works and that it is likely to provide integration across the company's AR and VR products.

Amazon Alexa, Google Assistant and Apple's Siri are some of the most popular virtual assistants in the digital world right. But soon there will be another virtual assistant in the tech town competing with these artificial intelligence-based assistants. A new report suggests that Facebook is working on a virtual assistant of its own that will take on these digital assistants.

According to a report by CNBC, the social media giant has been working on its AI-based virtual assistant since early 2018 and the project is being led by the company's augmented reality and virtual reality division, the one that works hardware products such as Portal and Oculus VR headset.

The report states that the Facebook's AI being developed a facility team based out of Redmond, Washington and it is being lead by Ira Snyder, director of AR/VR and Facebook Assistant - which could be the name for the company's AI assistant. Though it remains unclear if the social media firm would use the same name when it formally introduces its AI assistant

The report was confirmed by a Facebook spokesperson in a statement to The Verge. "We are working to develop voice and AI assistant technologies that may work across our family of AR/VR products including Portal, Oculus and future products," the Facebook spokesperson said in a statement to the publication.

Notably, this is not the first time that Facebook has tried its hands in the area of virtual assistants. The social media giant first introduced its AI-based virtual assistant M for its Facebook Messenger app back in 2015. M was supposed to help the Messenger users with recommendations and suggestions. However, it relied heavily on human help and so the company dismantled it last year in January after two years of service. "We launched this project to learn what people needed and expected of an assistant, and we learned a lot," Facebook had said in a statement at the time.

Now, almost a year later, the company is working on another voice-based AI assistant. While Facebook Assistant, or whatever the company decides to call it in the end, is not likely to compete with the likes of Alexa and Google Assistant directly, but it is likely to help the company provide a deeper integration within its own products and help users interact with its existing hardware products and future products seamlessly



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## Apple 'Material Recovery Lab' Uses Robots to Rip Apart Devices for Recycling Materials

**A**pple is notorious for keeping what happens in its laboratories a closely guarded secret. But the iPhone maker plans to share openly everything that happens in its newest lab in Austin, Texas.

[Apple](#) said Thursday that it will open a "Material Recovery" lab to investigate new techniques using robotics and machine learning to rip apart its devices and recover valuable materials such as copper, aluminium and cobalt. The 9,000-square-foot lab will be at the same Austin facility as "Daisy," an Apple-built robot that can now tear apart iPhones at the rate of 1.2 million per year.

The lab is part of Apple's broader goal to make all of its products from recycled or renewable materials. Apple has not set a date for when it will reach that goal, though some products such as the MacBook Air already feature aluminium made from melted down iPhones traded in to Apple.

Lisa Jackson, Apple's vice president of environment, policy and social Initiatives, told Reuters the research will inform how Apple designs its products.

"I absolutely think that the learnings we make there will be for all of Apple, and hopefully for all of our sector, and of course will influence designers and engineers as we go forward," Jackson said in an interview.



Apple has faced criticism in the past that its thin-and-light product designs make it hard to disassemble products so they can be recycled.

Kyle Wiens, chief executive of iFixit, which provides free repair instructions for electronics, said Apple deserves some credit for making the iPhone reasonable to recycle. But he said many other popular products in its lineup - such as its AirPods headphones - cannot be economically recycled because they are stuck together with glue.

## TECHNICAL NEWS

## Department of Computer Applications

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*Newsletter***Microsoft admits Outlook.com hackers accessed email accounts**

**M**icrosoft admitted that hackers were able to access accounts for months earlier this year and they could have viewed not only account addresses, folder names, and subject lines of the emails, but also viewed the content of the emails.

In what could spell reputational damage for Microsoft, the company has admitted that its [Outlook.com security breach](#), which was revealed over the weekend, was far worse for some than others.

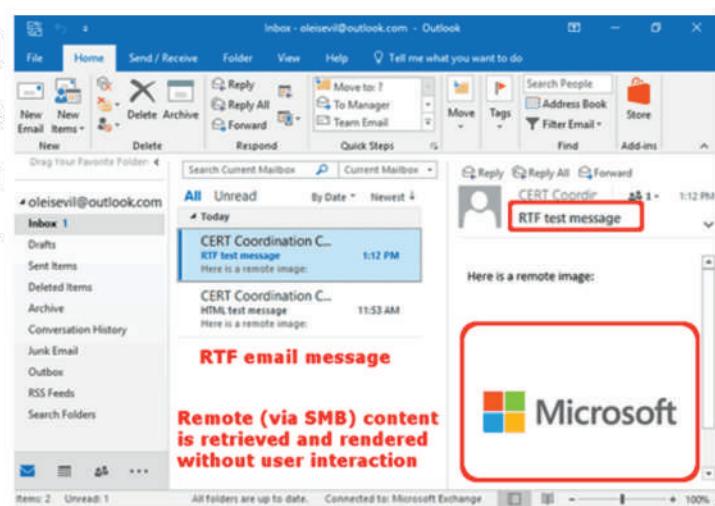
Microsoft admitted that hackers were able to access accounts for months earlier this year and they could have viewed not only account addresses, folder names, and subject lines of the emails, but also viewed the content of the emails, [The Verge reported](#).

The company has started notifying affected users, which it believes to be a 'small group'. However, there is no clarity on how many users had their accounts compromised.

It has been claimed that hackers were able to access some accounts for up to six months and used the access to reset iCloud account linked to stolen iPhones. However, Microsoft dubbed the claims as inaccurate.

In a notification to customers, Microsoft stated that unauthorised access to some accounts was observed between January 1 and March 28, 2019.

Whether or not you are part of the small group affected by the breach, it is recommended to reset your passwords and look for any data loss that may hamper your online identity or transactions.



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## Google lets Android users choose browsers to ease EU antitrust concerns

Users of Android devices will be able to choose their browsers and search engines from five options starting on Thursday, a senior Google executive said, in a move aimed at addressing EU antitrust concerns and staving off fresh sanctions.

Hit with a record EUR 4.34 billion fine last year for using the market power of its mobile software to block rivals in areas such as internet browsing, Alphabet unit [Google](#) was also ordered to come up with a proposal to give its rivals a fair chance.

The European Commission said Google had an unfair advantage by pre-installing its [Chrome](#) browser and Google search app on Android smartphones and notebooks.

The company last month said it would let Android users choose their browser and search engine but did not provide details.

Android users in Europe who open Google's app store [Google Play](#) will now see new screens with an option to download different search apps and browsers, Paul Gennai, its product management director, [said in a blog](#).

"Two screens will surface: one for search apps and another for browsers, each containing a total of five apps, including any that are already installed," he said.

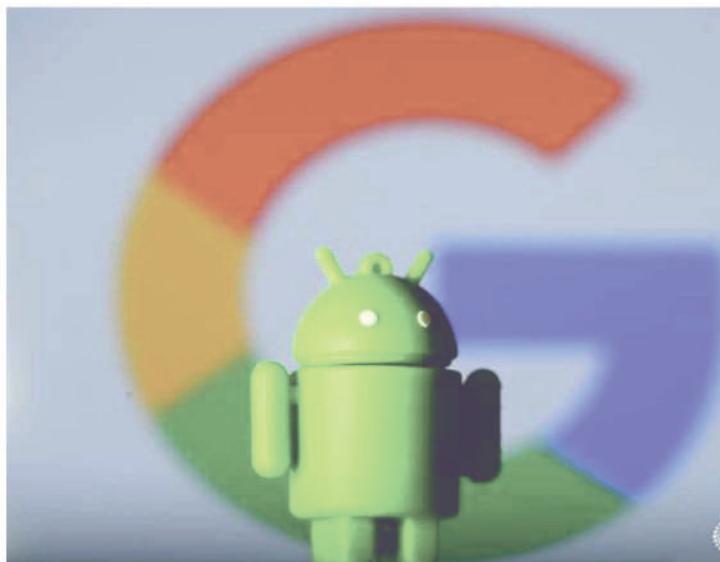
The five apps are chosen based on their popularity, which is determined based on industry data and the number of downloads in each country. They will then be listed in a random order.

"Where a user downloads a search app from the screen, we'll also ask them whether they want to change Chrome's default search engine the next time they open Chrome," Gennai said.

The new options will appear on both existing and new Android phones in Europe.

Google faces a fine up to 5 percent of Alphabet's average daily worldwide turnover if it fails to comply with the EU order to stop anti-competitive practices.

Lobbying group FairSearch whose Android complaint triggered the EU investigation urged regulators to take a tougher line.



**TECHNICAL NEWS****Department of Computer Applications**

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*Newsletter***AI tools help tech firms find the right hand for the job**

**T**echnology firms who build artificial intelligence based solutions for clients globally are increasingly using the tech to demonstrate its effectiveness internally, particularly in their people functions due to the sheer numbers they handle.

Companies are tapping into a mix of technologies like AI, natural language processing and machine learning to drive value from the large stores of data they have accumulated over the years. Technology services firms such as Cognizant, Tech Mahindra and Capgemini look at tens of thousands of candidates a year and hire thousands to add to their workforce in the country.

"While our interviews have gone completely paperless, our automated response management system facilitates seamless communication with the hundreds of thousands of candidates we assess in a year," Satish Jeyaraman, vice president, human resources, Cognizant said.

The company is now able to process several thousand offers in an hour and has been able to reduce onboarding time per employee from a day to less than 15 minutes and arrest instances of fake offers and impersonations, he said.

Cognizant employs globally over 2.81 lakh people with nearly two thirds in India. Tech Mahindra has over 121,000 employees globally, while Capgemini has over 200,000 people with more than half in India.

"We use AI based tools to shortlist CVs and select the most likely candidates," Harshvendra Soin, chief people officer, Tech Mahindra said.

The shortened hiring process and the reduced cost of people quitting the job early would both result in savings and increased efficiency and productivity, he said. "While earlier HR was focused on efficiency, now it's about transformation".

Millenials comprise almost 70% of the workforce and use the latest consumer technology in their personal lives. They have come to expect a similar experience in the workplace as well, and gamification of processes and enterprise chatbots are just some aspects of this natural progression of technology in the workplace.

"Technology is enabling us to improve the speed and scale of candidate conversion, enhance candidate experience and most importantly, improve productivity of our talent acquisition team," said Jaideep Chavan, vice president and head of talent acquisition – India, Capgemini, said.

Similarly at Tata Communications, an AI engine is used to sift through all publicly available resumes, not just people who apply for the job, to determine who is the best match for the role.

Last year, Tech Mahindra launched Talex, an AI driven talent marketplace that matches an employee's profile to existing job openings within the organisation and gives a score for the skill match. Tata Communications too has implemented a similar system.

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## Amazon launches machine learning chip, taking on Nvidia, Intel

Amazon has launched a microchip aimed at so-called [machine learning](#), entering a market that both Intel and Nvidia are counting on to boost their earnings in the coming years.

Amazon is one of the largest buyers of chips from Intel and Nvidia, whose semiconductors help power Amazon's booming cloud computing unit, [Amazon Web Services](#). But Amazon has started to design its own chips.

Amazon's so-called "[Inferentia](#)" chip announced on Wednesday will help with what researchers call inference, which is the process of taking an artificial intelligence algorithm and putting it to use, for example by scanning incoming audio and translating that into text-based requests.

The Amazon chip is not a direct threat to Intel and Nvidia's business because it will not be selling the chips. Amazon will sell services to its cloud customers that run atop the chips starting next year. If Amazon relies on its own chips, it could deprive both Nvidia and Intel of a major customer.

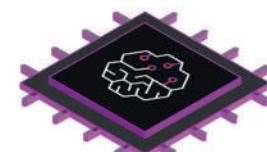
Intel's processors currently dominate the market for machine learning inference, which analysts at Morningstar believe will be worth \$11.8 billion by 2021. In September, Nvidia launched its own inference chip to compete with Intel.

In addition to its machine learning chip, Amazon on Monday announced a processor chip for its cloud unit called Graviton. That chip is powered by technology from SoftBank Group-controlled Arm Holdings. Arm-based chips currently power mobile phones, but multiple companies are trying to make them suitable for data centres. The use of Arm chips in data centres potentially represents a major challenge to Intel's dominance in that market.

Amazon is not alone among cloud computing vendors in designing its own chips. Alphabet-owned Google's cloud unit in 2016 unveiled an artificial intelligence chip designed to take on chips from Nvidia.

Custom chips can be expensive to design and produce, and analysts have pointed to such investment driving up research and capital expenses for big tech companies. Google Cloud executives have said customer demand for Google's custom chip, the TPU, has been strong. But the chips can be costly to use and require software customisation.

Google Cloud charges \$8 per hour of access to its TPU chips and as much as \$2.48 per hour in the United States for access to Nvidia's chips, according to Google's website.



**TECHNICAL NEWS****Department of Computer Applications**

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*Newsletter***US facial recognition will cover 97 percent of departing airline passengers within four years**

The Department of Homeland Security says it expects to use facial recognition technology on 97 percent of departing passengers within the next four years. The system, which involves photographing passengers before they board their flight, first started rolling out in 2017, and was operational in 15 US airports as of the end of 2018.

The facial recognition system works by photographing passengers at their departure gate. It then cross-references this photograph against a library populated with faces/images from visa and passport applications, as well as those taken by border agents when foreigners enter the country.

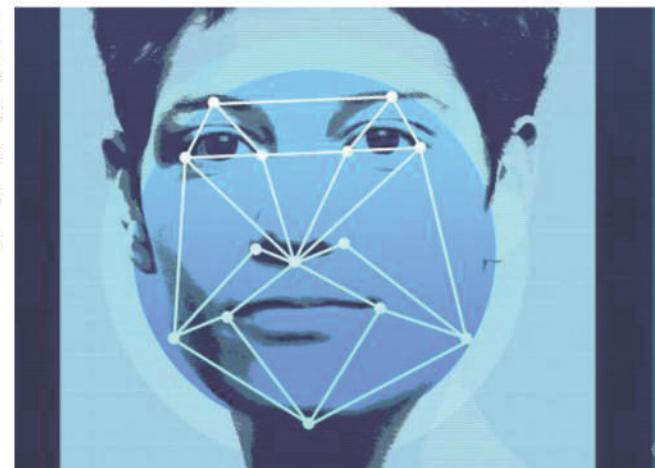
**FACIAL RECOGNITION HAS IDENTIFIED 7,000 PASSENGERS WHO'VE OVERSTAYED THEIR VISAS**

The aim of the system is to offer “Biometric Exit,” which gives authorities as good an idea of who's leaving the country as who's entering it, and allows them to identify people who have overstayed their visas. [Quartz notes](#) that US authorities have traditionally relied on airline flight manifests to track who's leaving the country.

Since [the introduction of the current system](#), facial recognition identified 7,000 passengers who overstayed their visas on the 15,000 flights tracked. The US Customs and Border Protection (CBP) estimates that over 600,000 people overstay their visas every year, an offense that carries a maximum penalty of a 10-year ban from entering the US.

Critics argue that building up a database of millions of people's photographs is [a threat to civil liberties](#). Once you have the database, it would be easy to share it with other agencies, effectively turning it into a search tool for all law enforcement.

The current iteration of the system [first entered trials in 2017](#) on a single flight between Atlanta and Tokyo. It was originally planned to roll out more widely at the beginning of 2018, but its implementation was fast-tracked by the Trump administration and was expanded to more airports in the summer of 2017.



# Newsletter

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## IoT: Industries bet big on the power of connectivity

Internet of Things (IoT) is a buzzword in tech circles today due to its ability to lend itself to a wide range of applications—smart homes, connected cars, wearables, etc. Every year, April 9 is observed as IoT Day. Mark Weiser, chief scientist at Xerox PARC in the 1980s, pioneered the technology. Then Weiser had said, “The most profound technologies are those that disappear. They weave themselves into the fabric of everyday life until they are indistinguishable from it.”

True to his statement, today IoT exists behind many applications without actually showing itself, thanks to thousands of sensors which gather data which is processed at the backend, enabled by the cloud.

Some of the biggest tech corporations in the world are investing in IoT as part of their digital transformation portfolio. For instance, [Microsoft](#) recently announced a global investment of \$5 billion in IoT over the next four years. Microsoft has positioned its IoT offerings to include what it believes as necessary for businesses to get started in IoT—operating systems for devices, cloud services to control and secure them, advanced analytics to gain insights, and business applications to enable intelligent action. Virendra Chaudhari, Intelligent Cloud, Internet of Things (IoT) Global Black Belt, Microsoft, says,



“Indian organisations are realising the business value brought in by IoT, with heightened awareness and aggressive plans to deploy an IoT solution.”

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