Weekly *Wireless* Report

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This Week's Stories

Travels With My Smartphone
April 7, 2016

The more we rely on our smart phones being connected to the Internet, the greater the anxiety we feel if we lose that connection when travelling, according to new research published in the *International Journal of Information and Communication Technology*.

Hui-Jen Yang and Yun-Long Lay of the National Chin-Yi University of Technology, in Taichung, Taiwan, explain that as smart phone prevalence has grown, people have come to rely more and more on what these devices allow us to do when travelling. That applies whether we are confirming hotel and travel arrangements, hiring a car, mapping our way around our destination, keep in touch with friends and colleagues back home, or sharing photos and videos via social media.

The team suggests, based on their research, that young people and the better educated, or simply the more information literate, tend to have a greater "smart phone web-dependence". Moreover, this seems to translate into greater "smart phone web-dependence anxiety" when travelling and not having access to reliable and fast Internet access.

Attachment theory proposes that a person or a group of people have the psychological tendency to gain safety by seeking closeness to another person. They feel safe when the other person is present but anxious when the person is absent, for instance, children and parents alike become anxious when they lose sight of each other in a crowded place. The new study suggests that separation anxiety is just as real for people and their smart phones, although the problem is obviously a one-sided issue.

The team concludes that their study has implications for understanding the psychology of our interaction with information and communications technology, something that will likely become increasingly important. It also points to a need for providers to help "treat" their users' dependency and anxiety by ensuring ubiquitous, fast and low-cost access to services.

wirelessweek.com

A 'Fitbit' For Cows Is Here To Help Farmers Get More Milk Out Of Their Cattle
April 6, 2016

Dairy farming is one of the biggest industries in Pakistan, with an estimated 42 billion liters of milk production per year. With approximately 63 million animals producing milk and over eight million households involved in the trade, the country ranks as the fourth-highest milk producing nation globally.

Despite these rosy numbers, average milk yields per cow are abysmally low — estimated at only four to five liters per day during the lactation cycle. This pales in comparison to the United States — incidentally the world's highest milk producing country — where cows yield on average 32 liters per day.

The reason behind low yields boils down to primitive agricultural practices. Farmers rely on techniques that are several decades-old and the concept of large, monitored dairy farms is almost non-existent. They also fail to utilize technology, which is commonly done in the West.

That's the problem Cowlar wishes to solve. The startup makes a tracking wearable for cows and buffaloes that helps farmers increase milk yields by up to 15 percent, it claims.

"In Pakistan and other developing markets farmers often fail to detect when their cows are in heat," explains Umer Adnan, co-founder of Cowlar. "Hence they can't inseminate the cow in time and milk production goes down."

Drink more milk

Cowlar's wearable constantly monitors the temperature and behavior of the animal through motion-sensing trackers. Umer claims it can determine when the cow is eating, sleeping, mating and any other significant activity. The data is then fed back into an algorithm which determines things like the health of the cow, its predicted heat cycle and any irregularities in behavior.

"There's no on switch [for the gizmo]," says Umer. "It instantly recognizes it is now installed on a cow."

Umer's background is in mechatronics and electrical engineering, while his co-founder is trained in robotics. He says the size of the global market opportunity is "approximately $400 billion," and they're building solutions for both small-scale and advanced dairy farms. The wearable itself is developed by e4 technologies, the startup's parent company. Among other things, the company also develops products for wireless crop monitoring, energy optimization and motion tracking for sports.

Cowlar's trials in Pakistan have been fairly successful. Umer says they've managed to increase milk yields between eight and 14 percent.

"Even if you increase the average yield by five percent, it can add $1 billion to Pakistan's economy every year. I don't anticipate that everyone will buy our product, but there's a lot of scope for value addition," says Umer.

Boon for farmers

Cowlar costs $69 as well as a $3 monthly subscription fee after the first three months. The product is still in beta, but Umer says they've sold about 1,000 devices so far.

"On average it can help small farmers earn up to $500 extra each month per cow."

On average it can help small farmers earn up to $500 extra each month per cow.

"The biggest thing we're trying to capture is when a cow is in heat. If farmers miss the heat cycle then the next cycle comes after 21 days. If you miss that, you're missing out on 21 days of milk production, which is valued at about $400."

Since most of the startup's customers are poor, uneducated farmers, it doesn't send them a fancy SaaS dashboard or inundate them with data. It analyzes the behavior itself and sends farmers text message alerts giving them recommendations on how to manage their cows.

These can include warnings that the cow is unwell and needs medicine or that the heat cycle is scheduled to begin soon.

"Farmers don't find the change instantly — this is about working with them and changing their behavior," explains Umer. "If they follow our advice they'll see changes after a month or so." "We don't insert any steroids in the cow," he adds.

For farmers, Umer explains, the biggest fear is that their cow might contract an illness and die. They've been very receptive to Cowlar's product as it can help them determine signs and symptoms at an early stage.

However, Umer admits that it isn't possible for them, at this stage, to determine the exact disease afflicting the animal.

"We can tell you that the cow is not well, for example, by understanding that its hind legs are becoming weak and that it's not standing in the proper position.

For more tech-savvy clients, usually those who reside in cities and employ workers to manage their farms, the startup does provide an online dashboard. This gives owners specific data about the health of their cows, as well as an activity tracker. They are notified when text message alerts are sent to workers and whether any follow-up action was taken. But is the algorithm good enough to predict the exact cause? Not exactly, but we're working on it."

The startup has applied for three patents and narrowly missed out on winning the Future Agro Challenge held earlier this month. It's also been incubated at Blackbox.

Umer is very upbeat about the future of his company. He says he's received significant interest from 10 markets, including Brazil, Mexico, Nigeria and Ireland. The plan is to strengthen the product locally and then roll it out globally. "We're obsessed with solving big problems," he adds.

mashable.com

Products & Services

Sense A Life Is A Car Seat Monitor That Could Save A Life
April 8, 2016

It's actually easier than some can imagine to leave a child behind in a car. Sense A Life aims to stop this from happening by acting as a warning to warn parents and caregivers of a child left behind in a car.

There are two parts to the device and the founders say it takes about 30 seconds to install and set up. One part sticks to the side of the driver's seat while a sensor is installed on the side of the car seat. When the driver exits the car, and a certain amount of time passes, the driver is alerted that the child is still in the car.

There are similar devices on the market, but Sense A Life seems to be one of the more complete offerings. The founders are looking for $50,000 on Kickstarter and aim to ship the device in December.

Car seat maker Evenflo currently makes and sells a car with a similar system. With Evenflo a box is plugged into a car's OBD and the sensor is integrated into the seat's chest clip. Because of this placement, the system will alert the caregiver if the clip is unbuckled in addition to if the child is left behind in the car.

The Sense A Life solution seemingly works with nearly any car seat, and looks easy enough to swap between seats on the fly if needed. It's probably hard for some to understand the need for such a device yet as a parent of two and frequent caregiver of other children, I can attest that sometimes parents need a little help. Don't judge.

techcrunch.com

Adidas Wants To Put These Zone Fitness Trackers On Every Kid In PE Class

April 5, 2016

Everybody likes a good fitness tracker, but nobody is thinking about the children. The poor dears are being left out of the wearable revolution — looks like it's up to Adidas to put a gadget on every wrist and a smile on every PE teacher's face. The athletic-goods company aims to equip whole classrooms with standardized heart-rate trackers with the Zone system (no relation to Adams and Archer).

The Zone wristbands track heart rate and nothing else, which is a bit limited for a fitness wearable — but it's also perhaps the one thing that matters to a PE teacher: activity. Get those kids moving!

Doesn't matter if they're running, jumping rope, playing hoops or cage fighting. The band will show a kid's heart rate and a color will indicate the level of activity being registered (low, moderate or "vigorous").

How is each student identified? The kids aren't chipped (what district can afford it?) so NFC it is — the PE teacher's laptop will know that when wristband number 22 taps in during fourth period, it's Nisha and not Neil.

"They cost $139 each, or $3,995 for a big case of 28..."

They cost $139 each, or $3,995 for a big case of 28 (a bit optimistic when it comes to class sizes) that doubles as a charge station, though presumably someone will have to hose them down regularly. Teachers can also request up to a dozen devices to test for a month.

Naturally, with all this data about children's health flying around in the ether, there are security concerns. Adidas is working with Interactive Health Technologies, which claims to reach 600,000 kids at hundreds of schools. Heart-rate graphs will be integrated with IHT's other data, like mile run times, maximum push-ups and any other metric the teacher cares to track.

Whether the software and data management systems are any good is hard to say: as is so often the case at the frontier of tech and education, the capabilities are desirable but the execution is sometimes lacking. ("One software. All data." proclaims the IHT website proudly, which is not heartening.)

But while skepticism is always warranted where the next generation is concerned (children that is, not the next generation of wearables), it's laudable in a general way to try to match the capabilities of technology with the needs (well, "needs") of educators, and specifically PE, an hour of the school day often overlooked.

Can we quantify our children? We can sure try. Is it worth it? Companies like Adidas, Nike and Under Armour sure think so, but the ones who are in a position to know are the teachers.

techcrunch.com

Emerging Technology

This Startup Uses AI To Automatically Create Videos Out Of Articles

April 7, 2016

Publishers are continuously looking for new ways to expand their reach. One sure bet? Video. Even Facebook co-founder Mark Zuckerberg recognizes this. Discussing the company's performance last year, he told media how video remains central on the News Feed of its users. "We're entering

into a period where that's increasingly going to be video — and we're seeing huge growth there," he was quoted by *Wired* as saying.

Yet not all publishers have the ability to produce video content. Taiwan-based GliaCloud wants to offer them help.

GliaStudio uses artificial intelligence to automatically create video summaries of text articles.

GliaCloud's product, GliaStudio, uses artificial intelligence to automatically create video summaries of text articles. What it does is analyze and summarize a text story and generate a video out of the data — complete with voiceover as well as photos and video clips from its content partners and public sources.

Launched in 2015, the company is the brainchild of David Chen, who is recognized as one of 48 Google cloud developer experts worldwide, and Dominique Tu, who has over 20 years' experience in business development with a solid network in the advertising industry.

The team's pitch is pretty straightforward: video is more or less now a necessity because it appeals to consumers' visual nature, but producing one is expensive and time-consuming. With GliaCloud, publishers can now create videos out of their own content, in just a few minutes, and at little cost.

Publishers may choose to pay for it per use or split the ad revenue they generate from the videos with GliaCloud. The company also offers a free version with embedded advertising to individual users and shares whatever revenue it earns with them.

"Large and individual publishers can utilize our patented Chinese sentimental analytics technology to easily create videos, with just a few clicks," says company COO Agnes Peng.

She adds that GliaCloud also provides publishers data analytics services to see how the videos have performed in terms of views and consumer feedback, among other metrics. "Our generated videos can enhance the click-through rate of their social media posts, bring more traffic, and lead to more profits."

Video Is King

Video content gets more organic reach than any other type of post, and most online publishers heavily rely on social networking sites such as Facebook to bring traffic, notes Agnes.

Citing a report by Syndacast, Agnes emphasizes the significance of video for online media.

"Syndacast predicts that 74 percent of all Internet traffic in 2017 will be video. Video is widely considered as one of the best marketing tools for the online advertising industry. The global market for online video ads is expected to reach $19 billion by 2017, while the Asian market is expected to achieve $10 billion in 2020."

That's a huge pie that Agnes says GliaCloud will most definitely take a bite out of, given the novelty of its service. We haven't heard of a similar offering in the region right now, but one company named Wibbitz is doing the same thing in the U.S.

AI-created videos are not as sophisticated as the ones created by media organizations in-house
In terms of quality, well, the AI-created videos are not as sophisticated as the ones created by media organizations in-house. They're short and simple — no fancy text layouts, graphics, and transitions — but they will do, if you're just looking for bite-sized and quick news. That seems only right since GliaCloud is not expected to replace media group's video production teams. The service is positioned as a way to supplement what those teams are already doing.

GliaCloud has tapped BusinessNext, one of the largest tech media companies in Taiwan, as one of its "testing partners." Other local media outlets using the service are in the sports and entertainment sectors, though Agnes refuses to disclose specific names citing "confidentiality."

As it's still in beta, the startup also can't provide revenue figures or any financial information yet, says Agnes.

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Facebook Programs Computers To Describe Photos For The Blind

April 6, 2016

Facebook is training its computers to become seeing-eye guides for blind and visually impaired people as they scroll through the pictures posted on the world's largest online social network.

The feature rolling out Tuesday on Facebook's iPhone and iPad apps interprets what's in a picture using a form of artificial intelligence that recognizes faces and objects. VoiceOver, a screen reader built into the software powering the iPhone and iPad, must be turned on for Facebook's photo descriptions to be read. For now, the feature will only be available in English.

Until now, people relying on screen readers on Facebook would only hear that a person had shared a photo without any elaboration.

The photo descriptions initially will be confined to a vocabulary of 100 words in a restriction that will prevent the computer from providing a lot of details. For instance, the automated voice may only tell a user that a photo features three people smiling outdoors without adding that the trio also has drinks in their hands. Or it may say the photo is of pizza without adding that there's pepperoni and olives on top of it.

Facebook is being careful with the technology, called "automatic alternative text," in an attempt to avoid making a mistake that offends its audience. Google learned the risks of automation last year when an image recognition feature in its Photos app labeled a black couple as gorillas, prompting the company to issue an apology.

Eventually, though, Facebook hopes to refine the technology so it provides more precise descriptions and even answers questions that a user might pose about a picture.

The vocabulary of Facebook's photo-recognition program includes "car," "sky," "dessert," "baby," "shoes," and, of course, "selfie."

Facebook also plans to turn on the technology for its Android app and make it available through Web browsers visiting its site.

The Menlo Park, California, company is trying to ensure the world's nearly 300 million blind and visually impaired people remain interested in its social network as a steadily increasing number of photos appear on its service. On an average day, Facebook says more than 2 billion photos are posted on its social network and other apps that it owns, a list that includes Messenger, Instagram and WhatsApp.

In a Tuesday post, Facebook CEO Mark Zuckerberg hailed the photo description tool as "an important step towards making sure everyone has equal access to information and is included in the conversation."

mobile-tech-today.com

Mergers and Acquisitions

Brocade To Buy Ruckus Wireless In $1.2B Deal

April 4, 2016

Network and data storage company Brocade Communications Systems on Monday said it has signed a $1.2 billion deal to acquire wireless infrastructure company Ruckus Wireless.

As part of the agreement, Ruckus stockholders will receive $6.45 in cash and 0.75 shares of Brocade common stock for each share of Ruckus common stock. Brocade said it will fund the cash portion of the transaction through a combination of cash on hand and financing.

According to Brocade CEO Lloyd Carney, the acquisition will help Brocade build a new kind of networking company and position it to provide edge services as the industry moves toward 5G and the Internet of Things.

"This strategic combination will position us to expand our addressable market and technology leadership with Ruckus' fast-growing wireless LAN products, and supports our vision to deliver market-leading New IP solutions that enable the network to become a platform for innovation," Carney said. "We believe that combining our portfolios will provide significant benefits to our customers and will enable us to accelerate our growth and value creation."

Ruckus CEO Selina Lo said the deal will also help accelerate cross-selling opportunities for the two companies, which already have a strong history of partnership.

Following its acquisition, Ruckus will operate as a new business unit within Brocade that will report to Carney. Ruckus will retain Lo as head of the unit, Brocade said.

The combined company will bring in annual revenue of nearly $2.4 billion and employ nearly 6,000 people.
Brocade said it expects to close the transaction during its fiscal third quarter.

Brocade investors reacted poorly to the news, on Monday, with stocks falling 13.71 percent by 12:20 p.m. ET. Ruckus stock, however, surged, rising more than 31 percent on the deal.

wirelessweek.com

Industry Reports

Apple Filed A Patent For A MacBook Keyboard Without Keys

April 8, 2016

The touch-sensitive trackpad on Apple's MacBook computers is already pretty large, but can you imagine a MacBook which replaces the entire keyboard with one giant touchpad?

Judging from a patent filed in September 2015 and made public Thursday, Apple can. In the patent, the company proposes a "force-sensitive input structure for an electronic device," a customizable, clean, flat surface that reacts to where you press.

Apple refers to this type of input structure as "zero-travel," meaning there would be no keys or surfaces that move (at least not noticeably) when you press them. The surface would, however, sense the force of your fingers and return haptic feedback as you type.

The biggest advantage of such an input method would be configurability — a user could set aside portions of the slate for a numeric keypad, multiple trackpads, or a special set of keys (see one possibility in the image below).
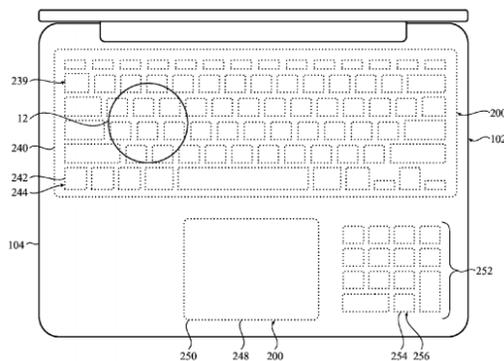

FIG. 11

Can't live without a numeric keypad? No problem, just place it next to your trackpad.

Sounds nifty, but how would one know which key is where? Apple has a solution: A grid of "micro-perforations or holes," with individual keys and areas becoming visible depending on lighting from below.

Other advantages of this system, according to Apple, include lowered risk of component failure as well as less dirt entering the computer and causing damage.

It might be a long wait until we see this technology on an actual device. Not all Apple patents necessarily turn into products, and even if they do, it might take years until they reach the consumers.

If you think this is rad, just remember this Apple patent from February 2016, which envisions a no-touch, close proximity surface — essentially a surface you don't need to touch to perform actions. If Apple combines these two patents into one, MacBook owners might one day appear to be wizards, performing arcane hand movements in the air to make the computer do their bidding?

mashable.com

WhatsApp Rolls Out Enhanced End-To-End Encryption
April 5, 2016

Looks like WhatsApp is battening down the hatches.

Facebook Inc.'s messaging service announced Tuesday it has strengthened its existing security features and introduced full end-to-end encryption in its latest version of the app.

According to WhatsApp, the update will apply to every call made and every message sent – including photos, videos, files, and voice messages – through the service.

WhatsApp said the messages will be secured with a lock that can only be opened by the sender and recipient, meaning only the user and the person they're communicating with can access the content.

Additionally, each message will have its own unique lock and key, WhatsApp said.

Those using the newest version of the app won't have to go fishing for the feature, either: WhatsApp said end-to-end encryption will be enabled by default.

WhatsApp first began encrypting its messages in 2014.

In a blog post introducing the expanded feature, WhatsApp founders Jan Koum and Brian Acton said encryption is "one of the most important tools governments, companies, and individuals have to promote safety and security in the new digital age." That tool, they said, shouldn't be compromised – by anyone.

"Recently there has been a lot of discussion about encrypted services and the work of law enforcement," Koum and Acton wrote. "While we recognize the important work of law enforcement in keeping people safe, efforts to weaken encryption risk exposing people's information to abuse from cybercriminals, hackers, and rogue states."

Koum said WhatsApp's dedication to protecting free, private conversation is also a personal mission for him.

"I grew up in the USSR during communist rule and the fact that people couldn't speak freely is one of the reasons my family moved to the United States," he said in the post. "Today more than a billion people are using WhatsApp to stay in touch with their friends and family all over the world. And now, every single one of those people can talk freely and securely on WhatsApp."

The shift to full end-to-end encryption comes in the context of an intense debate between government and law enforcement officials and tech companies about the place of encryption in modern justice.

Though Apple's recent battle with the FBI over access to an iPhone used by one of the San Bernardino shooters – and the FBI's subsequent cracking of the device and sharing of its hack technology – may have grabbed the most headlines, it's not the only encryption case out there.

WhatsApp itself is also in a standoff with the government over access to user conversations. Thanks to encryption, the app is reportedly impossible for government officials to tap into, even with a judge's order.

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