GetMobile

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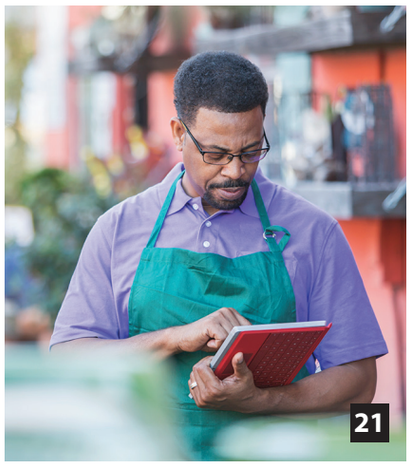

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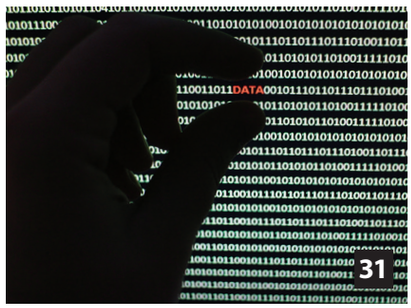

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MESSAGE FROM THE EDITOR-IN-CHIEF

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IN THIS ISSUE, we highlight three papers from ACM MobiCom 2017.

The paper, "The Tick Programmable Low-Latency SDR System," by Haoyang Wu, Tao Wang, Zengwen Yuan, Chunyi Peng, Zhiwei Li, Zhaowei Tan, Boyan Ding, Yuanjie Li, Jun Liu, and Songwu Lu describes a new software-defined radio (SDR) design that is easy to program and supports low-latency communication. *Tick* provides a simple programming abstraction via a graph of processing elements; programmers build SDR systems by writing elements, which implement simple data processing or control-flow functions, and connecting them in a graph. Tick achieves high performance by offloading intensive computations to hardware accelerators.

In "Backscatter as a Covert Channel in Mobile Devices," Zhice Yang, Qianyi Huang, and Qian Zhang describe *NICScatter*, a covert channel that uses the built-in Wi-Fi network interface on commercial devices to wirelessly leak information without having to make network connections or emit signals, such as sound, RF, or vibration. NICScatter is a form of backscatter communication in which the transmitter operates by switching the NIC between the on and off states to modulate the RF signals reflected by its antenna, and the receiver decodes the transmission from the amplitude of the reflected signals.

Finally, in "Wearable Technology Brings Security to Alexa and Siri," Huan Feng, Kassem Fawaz, and Kang G. Shin describe VAuth, a wearable system that delivers continuous authentication for voice assistant systems, ensuring that the voice assistant executes only the commands that originate from the voice of the owner. VAuth uses a wearable accelerometer to collect the body-surface vibrations of a user, which are then matched to the voice commands received by the voice assistant.

The rest of the issue consists of four more columns:

The Education column features an article by Carla Viviana Coleman Cordova and Nilanjan Banerjee, who reflect on their experience teaching an interdisciplinary course on smartphone application development. The course pairs visual arts and computer science students together in teams that apply their design and programming experience to develop applications for real-world clients.

In the past→future column, Taiwoo Park, Mi Zhang, and Youngki Lee describe a vision of ubiquitous mixed reality that leverages integration with IoT-enabled objects, such as toys and home appliances, to capture a user's interaction with the objects in their vicinity.

In the Standards column, Dongfeng Fang, Yi Qian, and Rose Qingyang Hu provide an overview of the security requirements and standards for the fourth generation (4G) long-term evolution (LTE) and the fifth generation (5G) wireless systems.

Finally, in the Mobile Platforms column, Tom Tisdall, Pankaj Chobharkar and Dae-Kyoo Kim reflect on challenges that organizations face when porting their enterprise applications to run on mobile platforms.

I hope you enjoy this issue, and I welcome your thoughts about GetMobile in general, and this issue in particular. ■

Editorial Board Changes

Marco Gruteser and Geoffrey Challen are stepping down from the editorial board. As respective founding editors of the Mobile Platforms and past→future columns, Marco and Geoffrey have been instrumental in the success of GetMobile. I sincerely thank them for their many contributions to the magazine, and wish them great success in their next endeavors.

Eduardo Cuervo

It is my great pleasure to announce that Eduardo Cuervo is joining the GetMobile editorial board as the new editor of the past→future column. Eduardo has a long track record of involvement with the SigMobile community and brings with him a wealth of expertise on mobile systems.

Eduardo Cuervo is a researcher at Microsoft Research in Redmond, WA, where he leads the Cloud and Edge Mobile Mixed Reality initiative. He works on enabling untethered immersive mixed reality experiences. He received his BS at Tecnológico de Monterrey in Mexico City, and his MS and PhD in Computer Science at Duke University.

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