ACM WiSec 2011 Poster and Demo Session

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This edited article of MC^2R features abstracts of posters and demos that were shown at the ACM Wireless Security Conference (ACM WiSec 2011).

From June 15 to 17 2011, Hamburg set the scenery for this year's fourth ACM Conference on Wireless Security — ACM WiSec '11. This is one of the premier venues to publish and discuss about security and privacy protection for wireless communication and mobile systems. Along with a main track with many strong papers, WiSec '11 featured a poster and demo session where on-going research activities and practical demonstrations in the field of wireless security were presented.

All submitted abstracts were evaluated by a selection committee: Frank Kargl (Posters and Demos Chair), Levente Buttyan, Panos Papadimitratos, Elmar Schoch, and Susanne Wetzel. It is noteworthy we received more demo than poster submissions. This illustrates that Wireless Security is not a theoretical domain, but it is also driven by practical experiments and demonstrations of concepts; including the testing of the security of real-world wireless communication systems, which often have significant vulnerabilities. In the following pages, a two-page abstract per demo or poster presents the work shown by four demos and three posters.

The demo by Rene Hummen, Hanno Wirtz, Nicolai Viol, Tobias Heer, and Klaus Wehrle from RWTH Aachen presents an approach how to share private wireless access points with other users in a secure and privacy-preserving manner. The municipal Wi-Fi networks formed by this approach offer an interesting alternative to coverage from commercial providers.

Martin Kost, Björn Wiedersheim, Stefan Dietzel, Florian Schaub and Tobias Bachmor from Humboldt University Berlin, Ulm University, and PTV demonstrated the Privacy-enforcing Runtime Architecture developed in the European FP7 project PRECIOSA. They showed how the coupling of data with privacy policies and the mandatory enforcement of these policies can be realized.

The demo by Steffen Ortmann, Peter Langendörfer, and Stephan Kornemann showed lightweight countermeasures against jamming attacks based on RSSI deviations that were implemented on standard sensor network nodes.

RFReact demonstrates the opposite of this — a platform for selective and reactive jamming that was developed and demonstrated by Matthias Wilhelm, Ivan Martinovic, Jens B. Schmitt, and Vincent Lenders. Based on a software-defined radio, packets can be jammed based on information in the IEEE 802.15.4 headers.

There is no abstract for two of the presented demos: (i) "A Practical Study of Security and Privacy Issues in Automatic Meter Reading System," by Ishtiaq Rouf, Rob Miller, Hossen Mustafa, Miao Xu and Wenyuan Xu, and (ii) "Interactive decryption of DECT phone calls," by Patrick McHardy, Andreas Schuler, and Erik Tews [1], which was also presented as a full paper during the conference (interested readers are referred to the full paper for details on the demonstration).

Attila Jäger, Hagen Stübing, and Sorin A. Huss presented a poster on "A modular design for a hardware security module in Car-to-X Communication" that implements efficient Elliptic Curve Cryptography on an FPGA. Heiner Perry, Osman Ugus, and Dirk Westhoff proposed a "Security Enhancement for Bluetooth Low Energy with Merkle's Puzzle". Finally, Thomas C. Schmidt, Matthias Wählisch, Benjamin Jochheim, and Michael Gröning showed a poster on "Context-adaptive Entropy Analysis as a Lightweight Detector of Zero-day Shellcode on Mobiles".

We want to thank all poster and demo authors for their contributions to a highly interactive and exciting poster and demo session at the ACM WiSec'11.

References

[1] Patrick McHardy, Andreas Schuler, and Erik Tews. Interactive decryption of DECT phone calls. In *Proceedings of the fourth ACM conference on Wireless network security*, WiSec '11, pages 71–78, New York, NY, USA, 2011. ACM.