News

Celebrating 40 years department of informatics

On October 12th and 13th the department of informatics invited students, graduates, and interested parties to participate in festivities on the occasion of its 40-year existence. The institute of telematics utilized the occasion in order to present current and on- going research in the form of different demonstrations. The demonstration "Decentralized IP-telephony" showed how voice communication can be realized fully decentralized without a dedicated operator. The demonstration "Energy efficiency of secure communication in wireless sensor networks" featured a comparison of different approaches to compute cryptographic signatures on wireless sensor nodes, where implementations in software and hardware were evaluated regarding energy efficiency, and compared directly with one another. Last but not least a demonstration of the open source framework ariba presented, using the example of a cross platform chat between different notebooks and internet tablets, how to maintain a connection in a heterogeneous network environment (fixed-line, WLAN, Bluetooth) in the presence of changing network configurations or spectators pulling various network connectors.

10/12/2012 Helge Backhaus

Martin Florian receives FZI award for diploma thesis

On the 13th of October, during the celebrations for the 40th birthday of the Department of Informatics at the KIT, Martin Florian received the FZI (Forschungszentrum Informatik) award for an outstanding diploma thesis (Fig. 1). He wrote his thesis "Socio- and Locality-Aware Overlays for User-Centric Networking" in the scope of the Young Investigator Group of Dr. Ingmar Baumgart "SODES-SON: Service-oriented, decentralized and secure

Figure 1 Martin Florian receives the FZI award

social networks". He was supervised by Dr. Ingmar Baumgart and Fabian Hartmann. Martin Florian is a researcher at the Institute of Telematics since October 1st, 2012.

10/13/2012 Martin Florian <florian@kit.edu>

Thesis defence successfully

Christian Bauer defends his thesis successfully (Fig. 2). The entire research group shares his happiness. We congratulate Christian and wish him all the best for his future career.

01/18/2013 Christian Haas <haas@tm.uka.de>

Young Talents - Science and Music

As part of the event series "Junge Talente - Wissenschaft und Musik" Dr.Ingmar Baumgart gave a talk on "User-Centric Networking - Was kommt nach Facebook und Co.?" (Fig. 3). This event series is a cooperation with the sponsoring associaton "Förderverein für Kunst, Medien und Wissenschaft e. V." and combines classical music with understandable science.

02/06/2013 Dr. Ingmar Baumgart <baumgart@kit.edu>

Martin Röhricht defends his thesis successfully

The entire research group shares his happiness (Fig. 4). We congratulate Martin and wish him all the best for his future career.

02/08/2013 Christoph Werle

Figure 2 Dr. Bauer

Figure 3 Dr. Baumgart: User-Centric Networking

Figure 4 Dr. Röhricht

Conferences & Workshops

BW-FIT Conference "Mensch und Technik - Auf dem Weg zum Internet der Dinge"

BW-FIT is Baden-Württembergs IT research funding project that enabled five different projects six years of fundamental research. On November 12th, 2012 all six projects presented their final results in Heidelberg. Presentations and live demonstrators gave an interesting insight into their work. The Institute of Telematics is part of two projects. In ZeuS, they presented results and demonstrators on reliable and energy-efficient sensor networks(Fig. 5). In SpoVNet, virtual overlays are used to easily deploy new network applications and services (Fig. 6).

11/13/2012 Joachim Wilke <post@joachim-wilke.de>

Projects

Project inspection KASTEL

On the occasion of the management organisation BMBF visiting the KIT project KASTEL, the KASTEL partners presented the latest developments of the competence-centre for applied security technologies. The Institute of Telematics was represented by Prof. Martina Zitterbart, PD Roland Bless, Denise Dudek and Anton Hergenröder. The team showed a comparison of different approaches to compute cryptographic signatures on wireless sensor nodes. Implementations in software and hardware were evaluated regarding energy efficiency, and compared directly with one another (Fig. 7). The team also presented a sensor network system designed to measure energy consumed by domestic appliances. Both demos have shown that the use of secure sensor networks is possible within a smart home scenario.

Figure 5 Anton Hergenröder demonstrating energy measurements in sensor networks

Figure 6 Michael Tänzer in discussion with visitors at one of the SpoVNet demonstrators

kastel.kit.edu

01/31/2013 Anton Hergenröder <hergenroeder@kit.edu>

Figure 7 Energy efficiency evaluation of security mechanisms in sensor networks

B. HEEP, M. FLORIAN, J. VOLZ and I. BAUMGART: *OverDrive: An Overlay-based Geocast Service for Smart Traffic Applications.* In *Proceedings of the 10th Annual Conference on Wireless On-Demand Network Systems and Services (WONS).* IEEE, March 2013.

D. MARTIN and H. WIPPEL: *API Usage and Message Passing in NENA.* Telematics Technical Reports TM-2013-1, Institute of Telematics, Karlsruhe Institute of Technology, January 2013.

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References

I. BAUMGART: *OverSim: The overlay framework.* Talk, March 2013.

I. BAUMGART: *User-Centric Networking - Was kommt nach Facebook und Co.?* Talk, February 2013.

M. FLORIAN: *Sozial- und lokalitätsbewusste Overlays für User-Centric Networking.* PIK - Praxis der Informationsverarbeitung und Kommunikation, 36(1):17–22, February 2013.