



In 2016 we successfully concluded a special task with a lot of verve: after mastering the first four-year period of the DFG sponsored Collaborative Research Centre *MAKI – Multi-Mechanisms Adaptation for the Future Internet* the follow-on proposal with substantial enhancements was conceived, submitted, presented and reviewed. All involved academics and researchers invested a lot of time, a lot more effort and know-how to develop the detailed research plan for the next four to eight years. Most importantly, the MAKI team could convince the reviewers of our plans.

In collaboration with other research institutions and universities we are developing the underpinnings for the future internet, making it suitable for the Internet of Things and new types of digital communication and Internet services, some of which we cannot even imagine at this point of time. The upcoming second phase of MAKI remains to be based on the hypothesis that *transitions* between communication mechanisms are the only viable long-term solution to ensure a high level of Quality of Service. The focus of around 50 participating academics and researchers is to explore transitions as the key ingredient of software-defined infrastructures, network function virtualisation, a worldwide test environment, as well as proactivity as part of a holistic system view.

We will further discuss these research topics at the *MAKI Scientific Workshop* on April 7, 2017 in Darmstadt. Prior to that, the spring conference of the E-Finance Lab on *Cyber Security and Finance – Challenges, Counter Measures, and Application Experiences* will take place on February 15, 2017 in Frankfurt. During the presentation of the Humboldt - Friedrich Wilhelm Bessel Research Award on January 19, 2017, the awardee Jörg Widmer from IMDEA Networks, Madrid, is going to talk about the *Challenges and Solutions for Millimeter-Wave Wireless Networks*. We would like to invite you to all these events.

In various projects we explore how sensor data contextual information in socio-technical systems can be established (e.g. in driver assistance or communication support systems) to improve the work-life balance jointly with our academic as well as industry partners. In another (for now) university-internal project we design parking barriers which allow for remote monitoring and control creating new opportunities for dynamic parking space management.

MAKI has been recognised for its gender equality model through the Carlo and Karin Giersch Award of TU Darmstadt. The core of our model is the continuous support and education of new generations of highly qualified female researchers across

Prof. Dr.-Ing. Ralf Steinmetz



Multimedia
Communications Lab
(KOM)

Department of
Electrical Engineering and Information Technology
Department of Computer Science
(Adjunct Professor)

Rundeturmstr. 10
64283 Darmstadt
Germany

Tel. +49 6151 16 - 29101
Tel. +49 6151 16 - 29100 (secretary)
Fax +49 6151 16 - 29109

Ralf.Steinmetz@KOM.tu-darmstadt.de
www.kom.tu-darmstadt.de
www.multimedia-communications.net

Date
December 2016

Reference
RSt/GS/et.al.

all qualification levels. This recognises one more MAKI-related topic as well as personalities that can serve as role models.

As part of a BMBF project we investigate new methods and use cases can be applied to industrial training processes based on future learning technologies at Industrie 4.0. More precisely, we are working on a web-based solution allowing experienced employees to document various process steps and create learning assignments for new employees. Once the process steps and learning assignments are defined, new employees can flexibly access them and document their learning progress. This new learning process ensures that an experienced colleague only acts as instructor if his expertise is indispensable.

As part of our serious games research activities we integrated the most recent VR technologies in order to explore the influence of immersive 3D environments in computer games. As part of a physiotherapy related project (with specific focus on spinal training) we investigate a special feedback system that integrates different interconnected sensors, balance boards, and an infrared camera, inter alia.

We congratulate our researchers on their excellent performance, which resulted in a total of around 50 publications and an excellence award for the publication *SQUAD: A Spectrum-based Quality Adaptation for Dynamic Adaptive Streaming over HTTP*, among others. Alongside his team Stefan Göbel carried out the very successful GameDays for the 12th time, an event which involves digital games that both entertain and generate social benefits (e.g. for education, health, etc.). In addition, the first textbook on Serious Games was written and edited by Stefan Göbel and three colleagues. We are proud of the success of Patrick Lieser who was awarded the Energy Prize 2016 by the TU Darmstadt Energy Center e.V. for his Master's thesis *Approximating the energy consumption of buildings by observing relevant environmental parameters*.

Christian Reuter, Melanie Holloway, Frank Englert, Alaa Alhamoud, und Tim Dutz successfully defended their doctoral thesis. We welcome our new colleagues, Wael Alkhatib, Aneta Daxinger, Alexander Frömmgen, Manisha Luthra, Tobias Meuser, Svenja Neitzel, Amr Rizk, Thomas Tregel, and Torsten Uhlig. Our colleagues, Steffen Schnitzer, Patrick Lieser, and The An Binh Nguyen were accepted to the prestigious Software Campus programme, which encourages young researchers to take up at an early stage of their career managerial positions in companies. Frank Englert, Ronny Hans, and Stefan Wilk finished their Software Campus projects.

This year has seen two significant anniversaries: I turned 60; and for 20 of these 60 years I have been leading the KOM institute, which was founded in 1996. I was very happy to celebrate both occasions with current and former colleagues. These celebrations once again demonstrated to me how important a well-established network is; not only from a careers perspective, but also to cultivate friendships. We continue to encourage our employees and alumni to get to know each other and exchange their experiences (see picture below).

If you would like to stay in touch with us throughout the year you can find all the current scientific publications and further useful information on www.kom.tu-darmstadt.de and blog.multimedia-communications.net. Also, please do not hesitate to get in touch personally, via e-mail or telephone. We enjoy discussing new ideas and topics and are looking forward to your feedback!

We wish you a merry Christmas and a happy New Year 2017!



Ralf Steinmetz

Dateiname: KOM_Ralf_Steinmetz_XMAS_letter__2016.12.30.docx
Ordner: /Users/rst/Library/Containers/com.microsoft.Word/Data/Documents
Vorlage: D:\Users\rst\Desktop\PPT-templates__2008\WORD-Template__alle-lw-
O\tUD-Briefkopf-Deutsch__080828_schwarz-blau.dot
Titel: Empfaenger Grund Datum
Thema:
Autor: rst
Stichwörter: TUD Brief A4 Corporate Design
Kommentar:
Erstelldatum: 30.12.16 07:58:00
Änderung Nummer: 2
Letztes Speicherdatum: 30.12.16 07:58:00
Zuletzt gespeichert von: Ralf Steinmetz
Letztes Druckdatum: 30.12.16 07:58:00
Nach letztem vollständigen Druck
Anzahl Seiten: 2
Anzahl Wörter: 942
Anzahl Zeichen: 5.325 (ca.)