The program of 6th FRUCT seminar

November 3-6, Helsinki, Finland

The seminar is free of charge, but all participants must be registered at www.fruct.org

Please note that in addition to the main conference program that starts at 13:30 on Nov 4 and continues till 17:00 Nov 6, within the scope of the seminar we organize 3 hands-on trainings, which are also free of charge, but require pre-registration at www.fruct.org/trainings (the number of sits is limited so we use the first-applied-first-served principle). The list of trainings is as follows:

1) **Qt hands-on training (from Tu 3.11, 9:00 till We 4.11, 13:30). Teacher: Tony Torp, TAMK University, Finland**

2) **Mobile Trusted Computing Lab (on We 4.11, from 16:15 till 18:45). Teacher: Jan-Erik Ekberg, NRC, Finland**
    Description: The lab session is an exercise put together by Kurt Dietrich and Johannes Winter (TU Graz / IAIK), as a part of the ninth European Workshop on Trusted Computing (ETISS-09), where it was run as a collaboration between IAIK and Nokia Research Center.
    In the session the participants will get a hands-on view of the application of the Mobile Trusted Module in the context of secure boot. Student exercises include adding new components to the secure boot chain, examining the effects of an integrity attack, and building a multi-stakeholder boot set-up using RIM certificates and verification key hierarchies.
    Prerequisites: The students are strongly requested to familiarize themselves with the commands of the Mobile Trusted Module (www.trustedcomputing.org/mobile) especially with the concepts of secure boot and RIM certificates. The session will be hands-on, but does not require programming experience.

3) **Smart-M3 technology hands-on training (on Th 5.11, from 13:15 till 16:30). Teacher: Jukka Honkola, NRC, Finland**
    Description: Hands-on tutorial of Smart-M3 platform. Focus is on extending an existing Qt based program to augment a scenario. For people not familiar with C++/Qt, using Python language will also be supported.

November 3 (Tuesday)
Helsinki University of Technology, Otakaari 5, Espoo – Room L310
Qt hands-on training. Teacher: Tony Torp, TAMK University of Applied Sciences

08:45	15m	Registration
09:00	45m	Introduction to Qt, Architecture
09:45	45m	Qt Application Framework Concepts
10:30	15m	Coffee-break
10:45	45m	Implementing Basic GUI Applications
11:30	45m	Memory Management
12:15	45m	Lunch
13:00	45m	Signals and Slots
13:45	45m	Strings
14:30	45m	Qt Object model
15:15	15m	Coffee-break
15:30	45m	Creating GUIs with Qt Widgets and Layouts
16:15	45m	Main Windows, Menus
17:00	15m	**Q&A session**

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November 4 (Wednesday)
Helsinki University of Technology, Otakaari 5, Espoo – Room L310
Qt hands-on training (continuation). Trainer: Tony Torp, TAMK University of Applied Sciences

08:30	15m	**Registration**
08:45	45m	Event Handling
09:30	45m	Graphics
10:15	45m	Qt Modules Walkthrough
11:00	15m	**Coffee-break**
11:15	45m	Qt System APIs: Networking, File Handling, Multithreading
12:00	45m	Qt on Nokia Mobile Platforms: Maemo and Symbian
12:45	45m	Development Environments: S60 and Maemo
13:30	30m	**Lunch**

November 4 (Wednesday)
Helsinki University of Technology, Otakaari 5, Espoo

13:30	30m	**Registration**	
Session: Welcome session & Mobile Security session			
Location: S4 Auditorium			Chairman: Alexey Dudkov
14:00	15m	Official Opening of the Seminar.	
14:15	15m	FRUCT Program Description, Status and Future Perspectives, S. Balandin, NRC, Finland	
14:30	15m	FRUCT Academic Social Network Project, A. Sergeev, Saint-Petersburg State University of Airspace instrumentation (SUAI), Russia	
14:45	1h	Mobile Trusted Computing, J.-E. Ekberg, Nokia Research Center, Finland	
15:45	15m	A Vulnerability of Hash Function Realization in ObC, A. Afanasyeva, SUAI, Russia	
16:00	15m	**Coffee-break**	

		Session: Video for mobile devices	**Session: Mobile Trusted Computing Lab, Room L310, Teacher: Jan-Erik Ekberg**
		Location: S4 Auditorium Chairman: Yevgeni Koucheryavy	
16:15	1h	Development of Mobile TV Standards in DVB, J. Henriksson, Nokia Research Center, Finland	
17:15	15m	Temporal Scalability Comparison of the H.264/SVC and Distributed Video Codec, X. Huang, A. Ukhanova, S. Forchhammer, E. Belyaev, DTU/Denmark and SUAI/Russia	
17:30	15m	H.264/AVC analysis of Quality in Wireless Channel, A. Chuykov, SUAI, Russia	**Mobile Trusted Computing Lab Hands-on Training Room L310**
17:45	15m	Video Transmission over High-speed WPANs Based on Low-power Data Compression, E. Belyaev, A. Turlikov, SUAI, Russia	
18:00	15m	Modern Methods of Increasing the Information Capacity of Digital Images, S. Bezzateev, N. Voloshina, P. Sankin, SUAI, Russia	
18:15	15m	Advanced Automatic White Balance Techniques for Mobile Video Processing, I. Grokhotkov, M. Gilmutdinov, A. Veselov, SUAI, Russia	
18:30	15m	Methods of Artifacts Reduction in DCT-based Mobile Video Coding, A. Veselov, I. Grohotkov, M. Gilmutdinov, SUAI, Russia	
18:45		**Closing of Day 1**	

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November 5 (Thursday)
Helsinki University of Technology, Otakaari 1, Espoo

08:45	15m	**Day Agenda**	
Session: Smart Spaces			
Room: E-hall			Chairman: Ian Oliver
09:00	30m	Smart-M3 Open Source, J. Honkola, H. Laine, R. Brown, Nokia Research Center, Finland	
09:30	30m	Smart-M3 Demos, J. Honkola, H. Laine, V. Luukkala, R. Brown, Nokia Research Center, Finland	
10:00	15m	The Road to Smart Spaces: Convergence of Consumer Electronics with a Change of Content Management and Application Design Principles, A. Koren, S. Balandin, SUAI/Russia and NRC/Finland	
10:15	15m	Semantic Analysis: Theory, Applications and Use Cases, D. Kan, V. Poroshin, SPbSU/Russia and M-Brain/Finland	
10:30	15m	Context Mobile Electronic Personality, W. Oyomno, P. Jappinen, E. Kerttula, LUT, Finland	
10:45	15m	**Coffee-break**	

Session: Mobile Software & Services		**Session:** Human-body centric services	
Room: S2 in Otakaari 5 Chairman: Harri Paloheimo		**Room: E-hall** Chairman: Michel Gillet	
11:00	15m	Ubiq Mobile – a New Universal Platform for Mobile Online Services, V. Onossovski, A. Terekhov, St-Petersburg State University, Russia	Electronic Health Passport on Basement of Computer Model of Organism for Decision Making Support in Telemedicine, M. Ignatyev, D. Makina A. Gubin, SUAI, Sechenov Institution of evolutionary physiology and biochemistry Russian Academy of Science, St-Petersburg State Pediatric Medical Academy, Russia
11:15	15m	Open Issues in Mobile Middleware, P. Heinilä, LUT, Finland	
11:30	15m	Virtual Telescope Services for Mobile Devices, A. Reyss, S. Balandin, Petrozavodsk State University/Russia and NRC/Finland	
11:45	15m	Location-based Services in Public Buildings, A. Kiryushin, Nizhniy Novgorod State University, Russia	Exploiting Femtocellular Networks for Emergency Telemedicine Applications in Multiple Dwelling Units, Z. Zheng, E. Mutafungwa, J. Hämäläinen, HUT, Finland
12:00	15m	**Lunch break**	Expert Control System of Convenience of User Interface, Mikhail Smirnov, D. Ilina, I. Lysenkov, Nizhniy Novgorod State University, Russia
12:15	1h	**Lunch break**	

Session: Mobile Software & Services (continuation) **Room: S3 in Otakaari 5** Chairman: Harri Paloheimo		**Session: Network technologies** **Room: E-hall** Chairman: Alexander Sayenko	**Smart-M3 technology hands-on training Room L310 in Otakaari 5. Teacher: Jukka Honkola**
13:15	45m	Energy-efficient mobile applications - issues and examples, J.K. Nurminen, Nokia Research Center, Finland	Providing the Needed Capacity to Serve Future Wired and Wireless Access Network, L. Dittmann, DTU, Denmark
14:00	15m	The Approach to Predict Operational Time for Symbian Mobile Devices, V. Kononova, K. Krinkin, "LETI", Russia	
14:15	15m	**Coffee-break**	

Session: Network technologies I **Room: E-hall** Chairman: Alexander Sayenko		**Session: Network technologies II** **Room: S3 in Otakaari 5** Chairman: Alexey Dudkov	**Smart-M3 technology hands-on training Room L310 (continuation)**
14:30	15m	An Overview of Cross Layer Design and Optimization for Cognitive Radio Networks, F. Ahmed, HUT, Finland	On Decoding Algebraic Codes, S. Fedorenko, SUAI, Russia

14:45	15m	Detection of Primary User in Cognitive Radio Network, L. Wei, O. Tirkkonen, HUT, Finland	
15:00	15m	Introducing UMSIC Middleware Services, J. Laakkonen, T. Kallonen, K. Heikkinen, J. Porras, Lappeenranta University of Techology (LUT), Finland	Modeling bler Performance of Punctured Turbo Code $(13,15)_8$ Adopting QPSK and 16QAM Modulations, S. Lembo, K. Ruttik, O. Tirkkonen, HUT, Finland
15:15	15m	A Stateless Approach for Internet Transport Protocols, M. Nikitinskiy, Yaroslavl State University, Russia	CQI-report optimization for multi-mode MIMO with unitary codebook based precoding, H. Määttänen, O. Tirkkonen, T. Roman, HUT, Finland
15:30	15m	Multipath Transport on the Internet, S. Siikavirta, G.R. Moktan, A. Jaakkol, HUT, Finland	Data Allocation for Parallel Processing in Distributed Computing Systems, A. Syschikov, D. Rutkov, SUAI, Russia
15:45	15m	Modeling and Analysis of WAP Protocol Family, M. Alekseeva, I. Vlasov, E. Dashkova, Demidov Yaroslavl State University, Russia	Holographic Implementation of a Linear Predictor of Random Processes: Influence of High-pass and Low-pass Filtering on the Process Characteristics, ITMO, Z. Bekyasheva, A. Pavlov, A. Vostrikov, Russia
16:00	15m	Design of a SIP Outbound Edge Proxy (EPSIP), S. Lembo, HUT, Finland	Efficient Algorithm of Well-Localized Bases Construction for OFTDM Systems, D. Petrov, Moscow State University, Russia
16:15	15m	Modeling and Analysis of the Session Initiation Protocol, E. Ishmukhametov, M. Gerasimov, Demidov Yaroslavl State University, Russia	Modern Radio Navigation Techniques: Automatic Dependent Surveillance-Broadcast, A. Popov, NRPL Group, Russia
16:30	45m	Invited talk: Future Internet is by Ethernet, Raimo Kantola, HUT (in E-hall, Otakaari 1)	
18:00	3h	**Social event in Nokia Research Center, Itämerenkatu 11-13, Helsinki**	

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November 6 (Friday)
Nokia Research Center, Itämerenkatu 11-13, Helsinki

08:45	15m	**Day Agenda**
09:00	1h	Conformance Testing for Embedded Networks (+Demo), M. Gillet, Nokia Devices, Finland
Session: Embedded Networks and Solutions		
Room: Da Vinci auditorium		Chairman: Heikki Waris
10:00	30m	Introduction to Theory of Real-Time Micro-Operating Systems for Embedded Control Systems, A. Astapkovitch, SUAI, Russia
10:30	15m	Coffee-break
10:45	15m	SystemC Modeling of the Embedded Networks, V. Olenev, Y. Sheynin, E. Suvorova, S. Balandin, M. Gillet, SUAI/Russia and Nokia/Finland
11:00	15m	Implementation Digital Pulse-Compression Filter on the Stratix FPGA and the TMS320C6416T DSP, A. Beseda, NRPL Group, Russia
11:15	15m	Remote Memory Access in Embedded Networked Systems, V. Olenev, I. Korobkov, L. Koblyakova, F. Shutenko, SUAI, Russia
11:30	15m	Low Power Protocols Development and Implementation, F. Shutenko, E. Suvorova, E. Yablokov, M. Gillet, SUAI/Russia and Nokia/Finland
11:45	15m	SystemC and SDL Co-Modeling Methods, A. Stepanov, I. Lavrovskaya, V. Olenev, A. Rabin, SUAI, Russia
12:00	15m	Cross-Development as a Service, V. Moltchanov, M. Kaipiainen, EmbedOne, Finland
Session: MAEMO		
Room: Da Vinci auditorium		Chairman: Timofey Turenko
12:15	15m	Programming for Open Platforms at Universities: Experience of Joint Activity of Petrozavodsk State University and Nokia University Cooperation Program, Y. Bogoyavlenskiy, A. Voronin, D. Korzun, A. Borodin, A. Kolosov, M. Kryshen, Petrozavodsk State University (PetrSU), Russia
12:30	15m	A MAEMO Client for Web Services of a Trading Business System, I. Semenov, P. Andrianov, D. Zabirohin, E. Zabolotskih, D. Korzun, Petrozavodsk State University (PetrSU), Russia
12:45	1h	Lunch break
13:45	1h	Agile and Lean Software Development: Thinking and Practices, M. von Weissenberg, Nokia, Finland
14:45	15m	Maemo Client for Social Networks with Cross-Profile Features, A. Bogachev, A. Borodin, A. Lomov, I. Burlak, S. Zakharov, PetrSU, Russia
15:00	15m	Kimi: A Personal Organizer in the Internet Event Space, S. Epifanov, E. Tsvetkov, K. Ivashov, A. Kolosov, PetrSU, Russia
15:15	15m	Coffee-break
15:30	15m	Scribo: Multi-service Blogging Application for the Maemo Platform, D. Zaiceva, A. Mezhenin, A. Sannikov, K. Germanov, M. Kryshen, PetrSU, Russia
15:45	15m	Benefits of an Open-source Platform from an Economical Perspective: Maemo's case study, J. Teixeira, Turku School of Economics, Finland
16:00	15m	WebDAV implementation for MAEMO, A. Zlobin, M. Zaslavsky, SPbETU "LETI" and St-Petersburg Polytechnical University, Russia
16:15	15m	Tools for Finding Resource Leakages, S. Ivanov, SUAI, Russia
16:30		**Official Closing of the Seminar, Sergey Balandin, Nokia Research Center, Finland**