INFORMATIK-KOLLOQUIUM
AB Programmiersprachen und Übersetzer
Institut für Computersprachen

Einladung

zum Informatik-Kolloquium des
AB Programmiersprachen und Übersetzer am
Donnerstag, den 20. Juni 2013, um 14:00 Uhr c.t.
in der Bibliothek E185.1, Argentinierstr. 8, 4. Stock (Mitte)

Es spricht

Priv.Doz. Dr. Raimund Kirner

University of Hertfordshire, Hatfield, UK

über

Streamix - Streaming Networks with Mixed Time Criticality

In this talk we present a stream-based coordination language for mixed time-criticality systems. Mixed time criticality means that the system has different types of timing requirements, ranging from services with hard real-time to soft real-time, performance requirements, and timing-independent services.

This language, called Streamix, is a hybrid of the coordination language AstraKahn, presented in the previous talk today, and a real-time progress layer. As a coordination language with mixed time-criticality, Streamix focuses on expressing the concurrency relations of components as well as their timing requirements. With Streamix we can annotate different criticality-levels of timing requirements to different subnets of the streaming network.

The important part of the underlying runtime system is to ensure that the services with real-time requirements can be ensured independently of the execution of non-real-time services. The language also provides adequate interfaces to safely allow data flow between different levels of time-criticality, also from lower criticality to higher criticality. A case study from the health-care demonstrates the need of such programming models for mixed time-criticality.

Biographie: Raimund Kirner is a Reader in Cyberphysical Systems at the University of Hertfordshire. He has published more than 80 refereed journal and conference papers and received two patents. He received his PhD in 2003 from the TU Vienna and his Habilitation in 2010. His research focus is on embedded computing, parallel computing, and system reliability. He currently works on adequate hardware and software architectures to bridge the gap between the many-core computing and embedded computing. He also published excessively on worst-case execution time analysis and served as PC chair of WDES'06, WCET'08, and SEUS'13. He is the local principal investigator of the Artemis-JU project CRAFTERS and local co-investigator of the FP7 project ADVANCE. Further, he has been the principal investigator of three research projects funded by the Austrian Science Foundation (COSTA, FORTAS, SECCO). He is a member of the IFIP Working Group 10.4 (Embedded Systems). For further details of the CTCA group see: `http://ctca.herts.ac.uk/`

Zu diesem Vortrag lädt der *Arbeitsbereich für Programmiersprachen und Übersetzer am Institut für Computersprachen* herzlich ein.
Tee: 14:00 Uhr in der Bibliothek E185.1, Argentinierstr. 8, 4. Stock (Mitte).