CISTER Quicknews

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HiPEAC 2015 Conference
January 19-21, 2015, Amsterdam, The Netherlands

HIRES WORKSHOP AT HIPEAC 2015

CISTER/INESC TEC researcher Luis Miguel Pinho co-organized the 3rd Workshop on High-performance and Real-time Embedded Systems (HiRES 2015) held in conjunction with the 10th International Conference on High-Performance and Embedded Architectures and Compilers (HiPEAC 2015).

The workshop (which occurred on January 21, 2015, in Amsterdam, The Netherlands) brought together researchers and engineers in the confluence of high-performance, embedded and real-time systems for a variety of application domains. As usual, the event was fruitful with discussions on the challenges and research directions that should be tackled by the community.

The program featured one keynote from Eric Debes, responsible for computing R&T strategy for Thales (France), with a perspective on the challenges of high-performance and real-time embedded systems. Additionally there were two sessions of technical papers on topics such as parallelization of industrial hard real-time applications, worst-case execution time analysis, mixed-criticality systems, algorithmic skeletons and model and stack for parallelization of time-critical applications .

The workshop finalized with an academia/industry panel on Challenges of Timing Analysis of Many-Core Platforms, featuring as panellists Christian Ferdinand, from AbsInt (Germany), Francisco Cazorla, from BSC (Spain), Luca Fossati, from the European Space Agency and Sebastian Altmeyer, from the University of Amsterdam (the Netherlands).

HIGH PARTICIPATION OF CISTER IN FCT CALLS FOR R&D PROJECTS

FCT
Fundação para a Ciência e a Tecnologia
MINISTÉRIO DA CIÊNCIA, TECNOLOGIA E ENSINO SUPERIOR

CISTER has successfully participated in the submission of eleven R&D project proposals for the recent FCT calls; a great achievement with credits to all CISTER members. Altogether, the proposals require hiring 43 new researchers, including 3 BCC, 2 post-doc, 24 PhD students, and 12 master students, for a total effort of 1008 PMs and a requested budget of about 1.9 M Euros. The main supporting companies include PT Portugal, Kalray, ATOS, Airbus Defense & Space, EMBRAER, GMV Portugal, Critical Software, and EDISOFT Portuguese Aerospace Industry Association (PEMAS). Technically, the proposals cover various CPS-related topics including, cloud computing, parallel computing, networks, runtime monitoring and verification, message and service-oriented middlewares, timing analysis (static and probabilistic), security, cooperative applications, and energy management.

CISTER MOVED SEVERAL INTERNATIONAL PROJECTS FORWARD

CISTER Researchers are active on several fronts to move projects in which CISTER is stakeholder forward. Below is a short report on the recent activities.

ARROWHEAD

Luis Lino Ferreira participated on an Arrowhead project meeting at schneider electric facilities to discuss the present status of the framework and future developments. One development was related to the interoperability between solutions from different work packages and the other was related to a workshop where the participants integrated their code into the Arrowhead framework.

CarCoDe project is entering its final period. In the last period, CISTER was engaged in three fronts: (1) CISTER was in charge for developing protocols for data dissemination in vehicular networks, (2) drove the efforts to prepare joint scientific papers regarding CarCoDe results, and (3) provided important technical contributions for the integration of the system. The general assembly (GA), held in the premises of Evoleo, discussed the final details of the developed components. During this GA, the participants focused on how to integrate the components into (i) a working demonstrator, and (ii) the workshop that will be held in Castelo Branco in June to present the results of~CarCoDe to the general public.

EMC²

The objective of EMC2 is to establish Multi-Core technology in all relevant Embedded Systems domains. To this end purpose, CISTER Researcher David Pereira participated in the WP2 (Executable Application Models and Design Tools) meeting in Eindhoven. The meeting was very important in order to establish on the one hand a common understanding of the goals of WP2, and on the other hand, the contribution of this work package to the goals of EMC2.

EnerGAware
Energy Game for Awareness of energy efficiency in social housing communities

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ENERGAWARE PROJECT KICKS-OFF IN BARCELONA

The kick-off meeting of the EnerGAware (Energy Game for Awareness of energy efficiency in social housing communities) project took place February 18-19, at the Universitat Politècnica de Catalunya, Spain. The kick-off meeting had the participation of representatives of the project partners as well as the Project Office, which will follow the project from the European Executive Agency for SMEs (EASME), which manages the Energy Efficiency topic of the challenge 'Secure, Clean and Efficient Energy' of Horizon 2020. At the meeting CISTER was represented by Luis Miguel Pinho.

The EnerGAware project intends to achieve a 15-30% energy consumption and emissions reduction in a social housing pilot and increase the social tenants' understanding and engagement in energy efficiency through the development of a serious game that will be linked to the actual energy consumption (smart meter data) of the game user's home and embedded in social media and networking tools. The demonstrator pilot will be carried out in Plymouth, UK, with the participation of 100 homes.

One of the main focus of the meeting was the planning of the deployment of the energy monitoring infrastructure, a work package led by CISTER. In the first phase, the monitoring infrastructure will allow to collect pre-pilot data which will afterwards be used for comparison.

EnerGAware is led by the Group of Construction Research and Innovation of the Universitat Politècnica de Catalunya, Spain. Other partners are the game developer Fremen Corp, France, the embedded platform provider Advantic SIS, Spain, the Building Performance Analysis and Sustainability group & the Psychology group of the Plymouth University, UK, the Devon and Cornwall social housing provider, UK, and the EDF Energy R&D UK Centre, UK. In parallel with the pilot integration work package, CISTER is also responsible for the design and implementation of the data collection and processing real-time middleware.

EWSN 2015: A HUGE SUCCESS

The European Conference on Wireless Sensor Networks (EWSN) was successfully organized by CISTER, in February.

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EWSN is a highly selective single-track international conference focused on publishing premier research results pertaining to networked sensing.

Two interesting keynotes, by Kamin Whitehouse from University of Virginia and Lothar Thiele from ETH Zurich, and nearly three dozen papers and demos were presented in the conference. An industry session, with participants from Airbus, Ansaldo, AVL and local companies, such as ISA and Kinematix, was also organised.