Photo courtesy of Pablo Fernández (link)

1st International Workshop on IoT challenges in Mobile and Industrial Systems (IoT-Sys 2015)

http://iot-sys.wasnlab.tlc.unipr.it/2015

Call for Papers

The IoT is a rich set of ICT technologies that enables pervasive interactions among smart objects across the Internet. Applications ranging from smart home, and smart factories to smart agriculture demonstrate its applicability across several markets. The idea of an "Internet of Things" is accepted. IoT-related technologies and standards are reaching maturity through the work of all major standardization bodies (e.g. IETF CoRE/ROLL/6TiSCH, WirelessHART, ISA100.11a, 3GPP MTC, ETSIM2M/OneM2M). Yet, open issues remain which can slow down adoption. They include: (i) limited interoperability between vertical silos; (ii) difficulty to guarantee deterministic service provisioning using interoperable architectures; (iii) limited flexibility and adaptability of hard real-time service models and related IoT deployments (iv) lack of definitive Information Centric Networking approaches to inherent data centric IoT applications; (v) fragmentation of design guidelines and definitions, which are tightly tied to each single application domain; (vi) efficient and scalable service and resource discovery; (vii) mobility support and self-configuration for smart objects and mobile devices.

The challenges and opportunities arising from a proper integration of the IoT with mobile computing and industrial systems create a fascinating research field that deserves in-depth investigations. On the one hand, mobile devices are expected to become the joining link between connected smart objects, the web, and end-users. On the other hand, IoT technologies will play a significant role for the quick convergence between Operational Management Systems (OMS) and distributed ICT sensing and actuation platforms. The resulting Industrial-IoT systems will be characterized by: (i) wire-like (>99.9%) reliability; (ii)

ultra low power (years of battery lifetime, or energy harvesting capable); (iii) hard constraints on data latency and throughput. Example applications include: industrial control loops, umbrella networks, energy harvesting solutions, IoT-aided robotic systems.

The IoT-Sys workshop is intended to be a forum for exchanging new ideas about the challenges and symbiosis between the Internet of Things, Mobile Computing, and Industrial Systems. The workshop aims at providing a significant contribution by fostering fruitful and critical discussions between attendees in order to facilitate the growth of the main pillars of Mobile-IoT applications and Indutrial-IoT systems, and, more importantly, pave the road towards networked systems of Information in IoT applications.
We are looking for submissions on topics that are relevant to the Mobile-IoT synergy and Industrial-IoT. Contributions with experimental focus, real world experience, and system building are particularly encouraged.

Topics of interest include, but are not limited to:

- Protocol architectures for industrial-IoT systems
- Service Level Agreement and Quality of Service strategies for the IoT
- Activity scheduling and determinism in the IoT
- Seamless integration in IoT-aided robotics applications
- Security, Privacy and Trust in the IoT age
- Information Centric Networking design in the IT
- Deverticalized middleware for M2M applications in IoT scenarios
- Protocols & Architecture for the Tactile Internet
- Mobile devices as smart objects
- Mobile OS and middleware for IoT support
- Integration of wired and wireless networks
- Cellular communication and Internet of Things
- Complexity analysis of algorithms for mobile environments
- Information access in IoT networks
- Security and privacy of mobile & IoT networks
- Innovative applications for mobile based sensing and processing
- Interaction between mobile devices and IoT networks in pervasive scenarios
- Interoperability among mobile and IoT nodes
- Data harvesting, processing, and caching
- Service migration between mobile and IoT devices
- Service and resource discovery
- Self-configuration and heterogeneity management
- Mobility of smart objects

Workshop papers will be included with the MobiSys proceedings and posted in the ACM Digital Library.

Program Chairs

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Important Dates

- Paper submission deadline: ~~February 28th, 2015~~ March 9th, 2015
- Notification of acceptance: March 22nd, 2015
- Camera-ready due (firm): April 2nd, 2015
- IoT-Sys 2015 Workshop at MobiSys 2015: May 18th, 2015