

6th European Congress

ERTS 2012

EMBEDDED REAL TIME SOFTWARE AND SYSTEMS

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CENTRE DE CONGRÈS PIERRE BAUDIS



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HOT TOPIC: networks of smart objects.

Embedded systems have done so much progress during the last decade that what was seen as science fiction almost 25 years ago is today our reality. In the mid-1980s, the cell phone (referred today as 1G) appeared but it was very heavy (mainly due to batteries) and not smart at all. Nowadays, even the smallest cell phone performs better than those “monsters” and can receive or send calls and messages at any time in every place covered by a cell. On the other end of the product range, smartphones are integrating more and more functions fulfilled yesterday by specialized appliances (e.g. navigation, media playing, photographs...). If we try to foresee what this trend could bring, people will soon be technologically (it remains to be seen whether it is safe or not) able to phone with one’s own hand like in “The Man from U.N.C.L.E.” just by embedding a chip under one’s skin and use their smartphones for everything else than just phoning...

Today’s reality is bringing every of us toward more and more connectivity with outside world either in our direct proximity (e.g. at home, while driving, in the office...) or on the other side of the planet. At home, it is already possible since a decade to bring our house appliances into Internet either to monitor their energy consumption or, for instance, to manage the fridge content while shopping in the supermarket. It is now becoming affordable and the increase of available addresses from IPv4 to IPV6 will break the last barrier. Who can say where this trend will end? When speaking about Internet of objects, the most optimistic ones foresee that our objects equipped with RFID will warn us when they will be forgotten at home. This technology already empowers some shops to easily manage their storage but for Mr and Mrs Jones, this will help them soon to build their shopping lists. This soaring connectivity increased drastically our ubiquity by giving us access to remote objects and environments from anywhere.

In a not too distant future, not only bigger transport means like commercial aircrafts and trains but also individual cars will be part of a wider network allowing the regulation of traffic flows, monitoring of workshops visits... and AUTOSAR (see sessions 1C and 4C.4) will certainly be an important step towards such smart cars.

However, as already mentioned, this burst of technology into our own life raises many side issues either in terms of safety (see sessions Tool B, 1A, 4D & 8A) or law in order to protect our health and freedom. Human factors (see session 2C) remain a cornerstone of all this progress and some progresses in miniaturized prosthesis are on the opposite extending our life span and comfort by fighting some diseases (e.g. implanted insulin pumps) and correcting some disabilities (i.e. artificial eye or ear).

Embedded real time systems and software are now spreading from their specialized domains where they were ten years ago into everyday life. Their ever increasing complexity and the collaboration with less critical systems have led to develop a lot of new methods (from requirements engineering presented in session 5A) and architectures (see session 1B & 3A) and to enhance existing ones in order to cope with the challenges of their development. This is mainly what ERTS² will deal with including the necessary convergence between the major domains using embedded systems (see session 1A, 2A.1 and 6A.2).

Embedded real-time systems and software development remain more than ever a source of potential challenges and of progress and ERTS² is the event where one can have the best overlook of present and future solutions which will make networks of smart objects a reality.

Reminder: Press registration for ERTS² event

The press representatives, who would like to attend the congress on February 1-3, 2012 and meet speakers or companies during the event, are invited to contact our team or send us an email with their request and copy of their accreditation press.

Other attendees and partners who have a list of key media, that they would like us to target, are also invited to send it. Although we will be targeting a wide range of media across all the embedded software and systems sectors, you may have some personal contacts that you would like us to invite more specifically.

We look forward meeting all of you during the congress next week.