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Pervasive Computing: What Next?

Panel Discussion

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I. Background & Situation

Each year more than ten billion embedded microprocessors are produced. This number is expected to increase spectacularly over the next decade, making electronic devices more and more pervasive. Such devices will range from a few hundred transistors (small sensors, actuators, etc.) to millions of transistor devices (multicore processors, displays, memories, sensors etc.). Wired and wireless network technologies are used to interconnect these components to realise broader, more capable, networks. Electronic devices and systems exist around us providing different services to the people in different situations: at home, at work, in their office, or driving a car on the street or at car park.

II. Potentials & Chances

Such systems belonging to pervasive computing technologies offer a wide range of benefits and potentials for industrial service providers and consumers. Pervasive computing will become more and more important for our everyday life and will have a huge field of industrial applications; most of them may not yet have been identified as opportunities for future healthcare, domiciliary care, improved methods to monitor the environment, intelligent transport systems or assistant systems for various daily situations, etc.

III. Debate & Outlook

In the plenary discussion we will talk about the developments and challenges in the field of pervasive computing. Therefore, we will debate on the implications of pervasive computing and find out about the economical potential of pervasive computing in the next years. The pivotal questions in this context are: How can we enhance the industrial utilization of architectures and systems based on pervasive computing? What is necessary to get acceptance on the market? How can we speed up the transfer of the results of research institutions to the market, etc? At the same time there is also to debate on how to address concerns over privacy, security, safety and sustainability while still realising the benefits of pervasive computing. Can we show that pervasive computing could amplify already existing problems related to the environment, human health, and society? Furthermore, social sustainability could be threatened by the technology if it is applied in a way that restricts consumers' privacy and freedom of choice. We refer to the precautionary principle as an analytical framework for discussing the opportunities and risks of pervasive computing for sustainable development. Which other topics will challenge pervasive computing research in the next decades?

Panellists

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