

**THURSDAY
NOVEMBER 8, 2007**

**Scaife Hall Auditorium
Room 125**

**4:30 p.m.
Refreshments—4:00 p.m.**



Prof. John Soldatos
AIT – Athens Information Technology

Prof. John Soldatos, obtained his Bachelor/MSc degree in 1996 and his Phd in 2000, both from the ECE Department of the National Technical University of Athens (NTUA). Dr. Soldatos has had a very active role in a number (over 10) of research projects, which were co-funded by the European Commission in the scope of the ACTS, ESPRIT and IST frameworks. Dr. Soldatos has considerable experience in enterprise IT projects, where he worked for leading Greek enterprises (e.g., INTRACOM S.A, IBM Hellas S.A, OTE S.A). He was engaged in these projects as senior developer, IT systems architect, team leader and technical project manager. Dr. Soldatos was the technical manager for the software development of the news portal <http://www.e-go.gr>. Furthermore, he has been involved in several large scale (public and private sector) industry projects as a principal IT consultant. Dr. Soldatos has extensively lectured in NTUA and AIT, while he has also given a host of invited lectures to international universities. He has also conducted many corporate training courses (on JavaEE, Oracle, RUP/XP) emphasizing on the implementation and technical management of large scale IT projects. As a result of his research activities he has co-authored more than 100 papers published in international journals (25) and conference proceedings. Dr. Soldatos has attracted (as principal investigator) multi-million euro research grants for both NTUA (prior to 2003) and AIT (2003-2007). Dr. Soldatos is with Athens Information Technology since March 2003, where he is currently an Associate Professor. His research interests are in Pervasive Computing, Grid Computing and Broadband Network Control. Dr. Soldatos is a reviewer in major journals in these fields, while he has also served as organizing chair, tutorial chair, and technical programme committee member in many related conferences. Recently, he served as TPC co-chair of the 18th IEEE PIMRC (Personal Indoor and Mobile Radio Communications) conference.

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Integrated Development of Pervasive Computing Applications

The proliferating pervasive, ubiquitous and context-aware computing environments are characterized by extreme distribution and heterogeneity in terms of both hardware and software elements. Hardware and software components are in several cases contributed by a variety of vendors, which complicates integration, interoperability, as well as the management of these components. At the same time, there are still very few environments and tools supporting integrated development of non-trivial pervasive computing applications. This seminar will emphasize on middleware architectures, techniques and tools for integrated development of pervasive computing applications. Following a very short introduction to the main middleware challenges of pervasive computing, the talk will focus on two distinct classes of pervasive computing applications, namely smart spaces and RFID (Radio Frequency Identification) applications. In the area of smart spaces we will present a breadboard-like architectural framework, along with a set of middleware elements facilitating the integration of perceptual components, sensors and context-modeling scripts in the scope of ubiquitous computing applications. We will illustrate a situation modeling approach, along with tools and techniques for assembling context-aware applications based on context-acquisition components contributed by multiple technology providers (i.e. research labs). Accordingly, we will outline prototype pervasive applications, which are operational in the AIT (Athens Information Technology) smart room. In the area of RFID applications, we will introduce REFiLL (Rfid Event FiLtering tooLchain) a lightweight middleware framework that can significantly ease the development of RFID applications. Thanks to a set of programming constructs REFiLL renders application development a task of authoring XML files, which are editable within a visual development environment. These XML files are accordingly transformed to Java files based on an appropriate run-time environment. Overall the REFiLL approach might be proven less cumbersome for RFID application writers, since application logic is expressed through (reusable) higher level semantics, which can be easily managed within integrated development environments.