Εξεταστέα ύλη μαθήματος

Περιρρέουσα Νοημοσύνη και Διάχυτος Υπολογισμός

(Ambient Intelligence and Ubiquitous Computing)

Basics. Ambient Intelligence (AmI) environment, AmI system. Main concepts of autonomic computing, ubiquitous computing (UbiComp). Holistic framework and core properties of UbiCom systems. Self management properties, Self-* properties and agents. Applications

Distributed systems and services. Complementary viewpoints with respect to different stakeholders in the system: user view, network view, service/platform view, enterprise view. Service architecture models: middleware, Service Oriented Computing, Grid computing, Peer-to-peer systems.

Devices and networks. Smart devices, cards. Device networks: standards, service discovery and related protocols (Jini, Simple Service Discovery Protocol, IETF Service Location Protocol, Bluetooth Service Discovery Protocol, Open Services Gateway Initiative). RFID tags. Sensors and sensor networks. MEMS. Smart dust. Smart surfaces, skin and paint.

Human Computer interaction. Basic terms, explicit and implicit HCI. User interfaces and interaction for widely used devices. Hidden UI via basic smart devices

Context aware computing. Definitions of context and context awareness. Applications. Designing and implementing context aware applications. Issues to consider when building context aware applications (human intent, context inferencing, context ambiguity, rules versus machine learning, privacy, evaluation, end user issues).

Privacy in Ubicomp. Definition of privacy. Legal Background, Interpersonal Privacy, Technical Solutions for Ubicomp Privacy, Novel Ubicomp Challenges to Privacy, Privacy Enhancing Technologies.

Όλα τα άρθρα που διανεμήθηκαν και παρουσιάστηκαν από τις ομάδες φοιτητών.