Internet of Things – Smarter Solutions, Smarter Spaces

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Abstract
The concept of Internet of Things (IoT) is opening new horizons in systems intelligence, where physical objects (embedded with sensory, identification and networking capabilities) can interact with other objects through the global infrastructure of wireless/wired Internet. These systems can be monitored and controlled by filtering and processing collected data. Such intelligent design will naturally result in efficient and cost-effective systems. Several architectures are being built to implement IoT from two different perspectives. The first, also known as sensor-oriented, is based on large-scale sensors deployment targeting the collection of accurate sensory data. Such huge sensory data are analyzed through cloud computing to deliver intelligent responses. The second architecture, also known as service-oriented, targets the association of unique identifiers with specific services. In such architecture, the service (or the appropriate response) is invoked upon receiving the unique identifier from a specific ID collecting node considering the context in which it was collected.

IoT offers many opportunities, among which are smarter solutions and spaces. The talk will also cover some of the activities at the Telecommunication Research lab at Queen’s University towards the realization of true smart spaces. We introduce the design and implementation of a Smart Spaces framework that utilizes the social context. In order to manage services and sessions, we integrate our system with the IP Multimedia Subsystem. The result: SocioSpace, a system capable of delivering targeted personalized services and content to customers and end users occupying a SocioSpace-enabled environment.