Wireless Communications and Mobile Computing

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Special Issue on

Applications of Semantic Mobile Computing in the Internet of Things and Web of Things

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In recent years, the techniques of Internet of Things (IoT) and Web of Things (WoT) have become increasingly popular for collecting sensing data and building intelligent services and applications. Some organizations (e.g., oneM2M, AllSeen Alliance, Open Connectivity Foundation (OCF), IEEE, etc.) have established the specifications of IoT for the issues of data models, unique identification of things, service descriptions and dependencies, discovery, trust management, and real-time control and cyber-physical systems. For instance, discovery and advertisement mechanisms have been designed for sending multicast packets, to find the adapted devices, including the target interface in wireless local area network (WLAN) or wireless personal area network (WPAN) for building a self-organizing network. The devices can follow the data models and control methods based on the techniques of semantic mobile computing for IoT applications. However, the data models and representation of IoT specifications and semantic mobile computing techniques for communications among different platforms are one of the major challenges.

Therefore, the interoperation of services across platforms based on different IoT specifications and semantic mobile computing techniques needs to be investigated. For example, the Interworking Proxy Entity (IPE) has been designed to establish the connection of oneM2M, AllJoyn, OCF, and Lightweight M2M in oneM2M's. The WoT defined by the World Wide Web Consortium (W3C) focuses on the web technologies for the combination and interoperation of the IoT with the web of data. Developers can use the techniques of WoT to collect sensing data and control devices via different IoT specifications and semantic mobile computing techniques in the applications of agriculture, energy, enterprise, finance, healthcare, industry, public services, residency, retail, and transportation.

The aim of this Special Issue is to collate original research and review articles concerning these areas of IoT and WoT study.

Potential topics include but are not limited to the following:

- Semantic mobile computing in IoT and WoT
- Applications of IoT and WoT
- Sensing techniques for IoT and WoT
- Communication techniques for IoT and WoT
- Middleware techniques for IoT and WoT
- Data analysis techniques for IoT and WoT

Authors can submit their manuscripts through the Manuscript Tracking System at https://review.hindawi.com/submit?specialIssue=706505.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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