Introduction to this Special Issue: Indoor Spatial Awareness (Part 2)

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People spend large part of their time indoors, such as school buildings, office buildings, shopping malls, and public transportation centers. As indoor space is different from outdoor space, it is difficult to just employ location-based technologies and services designed for outdoor space to indoor space. Thus, it is necessary for scientists and researchers to develop new spatial and spatio-temporal data management and geographic information systems (GIS) theories, technologies and applications for indoor space. The mission of this special issue "Indoor Spatial Awareness (Part 2)" is to bring together scientists and researchers who work on different topics of indoor spatial awareness and to provide a venue for inspiring new research directions in all relevant aspects.

In the first article, Demetrios Zeinalipour-Yazti and Christos Laoudias give an overall of Anyplace, an indoor navigation service based on an open, modular, extensible and scalable navigation architecture and crowdsourced Wi-Fi data.

The next three contributions are related to indoor Radio Frequency Identification (RFID) tracking data. Tanvir Ahmed et al. design a data mining methodology for detecting risk factors to identify potential issues in the baggage management from RFID baggage tracking data. Shan-Yun Teng et al. propose a new mining framework to discover user visited behavior from indoor RFID data in mall environments. Bettina Fazzinga et al. present an approach to exploit integrity constraints from semantic RFID trajectory data for interpreting RFID data in the context of object tracking.

Last but not least, Moustafa Elhamshary and Moustafa Youssef envision a ubiquitous indoor spatial awareness system with two main components, namely, that can be deployed anywhere around the world, with minimum overhead, and that works with the heterogeneous Internet of Things (IoT) devices.

I hope the readers will enjoy reading this issue and find it useful in their research work.