Mobile Information Systems

Special Issue on
Mobile Collaborative Technologies and Data Science for Smart Systems

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Society, technologies, and sciences undergo a rapid and revolutionary transformation towards Ambient Intelligence (AmI) which creates smart systems supporting collaboration among people to accomplish a variety of learning and working tasks. The main source and asset for developing smart systems is high quality data. Mobile systems enhance the possibilities to collect and/or generate reliable, accurate, and timely information. The next main challenge we face is to effectively and efficiently extract knowledge from huge amounts of data from heterogeneous sources to make the systems self-contained and autonomous. Collaboration issues as well as privacy and security requirements should be addressed to ensure data quality, accurate results, and effective analysis support in human-centered smart applications based on artificial intelligence. Major industrial players are already working to perform this tectonic shift based on big data, collaborative technologies, smart environments (SmE) supporting virtual and mixed reality applications, and multimodal interaction and reliable visual analytics. However, a number of challenges must be overcome to reap the benefits of big data, like varying data structures and real-time processing, maintaining data security, and adopting proper data privacy policies.

This special issue expects to attract paper submissions which deal with the challenges of smart systems using big data in mobile collaborative scenarios. Contributions may be in specialized areas and show novel solutions based on existing and/or new theories suitably applied.

Potential topics include but are not limited to the following:

- Collaborative mobile information systems

- Collaborative virtual museums and laboratories

- Collaborative mobile virtual environments for learning or knowledge management

- Collaborative mobile visual analytics

- Formalizing security and privacy related to problems from mobile information

- theoretic perspectives

- Mobile smart system optimization from both points of view

- Mobile Internet of Things in smart environments

- Design of recommender systems for AmI and SmE systems

- SmE middleware: security and privacy issues

- Verification and validation

- Management and reliable visual analytics in AmI and SmE systems

- Mobile recommender systems

  - Mobile ambient assisted living

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