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Special Issue on “Pervasive Collaboration and Interaction in Cyber Physical Society”

Theme and Scope
Beyond the scope of cyber physical systems, which feature a tight integration between computation, communication, and control in their operation and interactions, cyber physical society concerns not only the cyber space and the physical space, but also humans, knowledge, society, and culture. As examples, humans can (i) get local weather conditions, (ii) identify personal health conditions through sensors on their personal computing devices like mobile phones, (iii) provide means for acknowledging the evolution of social communities, and (iv) get location information through GPS and detect ambient objects through RFID detectors. Hereafter, humans can apply their personal computing devices to publish and compute the information along with other text and audio/video messages, such as twitter, blog on social networks. These information can be integrated into a cyber physical society where physical environment, people, and computing devices are to be coordinated and collaborated to provide synthetic and intelligent services, enabling us, for example, to (i) monitor and foresee weather changes more sensitively and locally, (ii) to monitor and predict disease propagation more timely and accurately, (iii) to recommend users (i.e., friends, co-workers, experts in certain areas, etc) who are more appropriate to user’s requirements and context, and (iv) to schedule transportation more personally and intelligently. Generally speaking, cyber physical society is a future coordination and collaboration environment that connects nature, cyber space and society under certain rules. It will be a large-scale human-machine environment uniting the physical, cyber, and socio spaces.

While cyber physical society prescribes the future coordination and collaboration environment, social computing studies human interactions when considering social contexts, and social and community intelligence explores the fusion of digital traces left by people for probing individual and group behaviors and community dynamics. Moreover, ubiquitous computing integrates information processing into the person’s everyday activities. Wireless sensor networks provide means to sense physical resources and to interconnect physical and cyber resources. Service oriented computing and business process management are coined to specify how computational resources can coordinate and collaborate.

This special issue aims at studying the behavior within the individual spaces (i.e., the physical, cyber, and socio spaces) in cyber physical society, modeling and analyzing interactions across spaces, and exploring how collaboration and interaction in cyber physical society can be facilitated leveraging the best practices developed in related areas including social computing, social and community intelligence, ubiquitous computing, (wireless) sensor networks, service oriented computing, and business process management. The usage and applications of cyber physical society are also focal points.

Topics of interest include, but are not limited to:

- **Architectures and principles of cyber physical society**
  - Ubiquitous interactive computing in cyber physical society
  - Heterogeneous resource integration in cyber physical society
  - Interaction modeling and analysis in cyber physical society
  - Behavior modeling and analysis for physical, cyber, and socio spaces

- **Applications of cyber physical society**
  - Mobile data gathering and management in cyber physical society
  - Personal e-health study in cyber physical society
  - Sensor networks and cyber space integration for cyber physical society
  - Evaluation of cyber physical society applications and systems
  - User studies and experiences

- **Social, cultural, and cognitive factors in cyber physical society**
  - Social and cultural computing in cyber physical society
  - Human behavior recognition in cyber physical society
  - Human-level intelligence in cyber physical society
This special issue aims to foster state-of-the-art research in the area of pervasive collaboration and interaction in cyber physical society. Authors are invited to submit manuscripts reporting original unpublished research and recent developments. Manuscripts should be written in English and strictly follow the guideline of the Journal of Internet Technology at [http://jit.niu.edu.tw/preparation2.php](http://jit.niu.edu.tw/preparation2.php). The covering letter should indicate the names of the authors and their affiliations, addresses, faxes, and e-mails. Prospective authors should submit full manuscripts with MS Word format or PDF format, electronically by e-mail to the Corresponding Guest Editor, Associate Professor ZhangBing Zhou, at zhangbing.zhou@gmail.com by July 10, 2012.

### Important Dates

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<td>Notification of Acceptance/Rejection/Revision</td>
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