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Welcome Message from the Editor-in-Chief

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Mission and Collaborative Efforts

What Makes a Good Journal? — I asked a natural yet fundamental question to myself on May 2015, when I received not only an encouraging invitation from EAI: "In the light of your overall experience in the field of cloud computing, we are pleased to offer you the position of Editor-in-Chief of the EAI Endorsed Transactions on Collaborative Computing," but also an challenging mission: "In promoting and bringing collaborative computing innovation to the community in the shortest time possible." By focusing on three key perspectives — good vision, good board and good papers — we are making efforts to enable the EAI Transactions on Collaborative Computing Journal to become a promising answer to this question, and we are honoured to serve it as Editor-in-Chiefs.

First, collaborative computing vision from the present to the future. Throughout the evolution of both physical world and cyber world Internet, collaboration has been always a timeless theme under broad contexts, ranging from the collaborative content distribution/sharing in wide-area network peer-to-peer computing paradigm [1], to the collaborative parallel-processing across hundreds of thousands of servers in cloud computing and datacenter scenario [2]. Nowadays, even people's daily use of resource-constrained mobile smartphones is also geared with powerful cloud platforms in a collaborative fashion, so as to deliver energy-efficient mobile-cloud rich-media applications [3]. In a long-term view, the role and impact of collaboration is being deepen, broaden and enriched in diversified forms, such as the newly emerging Inter-cloud/hybrid-cloud services [4], big data architectures [5], and even more interesting cross-disciplinary opportunities and challenges in the strategic collaboration of geo-distributed datacenters, smart grids and renewable energy [6-7] for shaping a "Green" world in the future.

Therefore, this Journal addresses a growing community, given that ever-increasing organizations and individuals have relied on electronic collaboration among distributed teams of humans, computing systems and devices, as well as autonomous robots to achieve higher productivity and produce joint products. In response, we amend the new scope of this Journal to adapt to the above emerging research trends and long-term vision.

Second, collaborative editorial board with efficient review process. In a reasonable time range, we're able to set up a highly international and domain-diverse Editorial Board consisted of networking, systems, applications, security, and industry experts from USA, Canada, France, Sweden, Zurich, Norway, Qatar, Iran, Japan, Hong Kong and Mainland China. As a salient feature and good news for authors, the Journal would be crowd-reviewed, which means that it will rely upon e-Scripts (http://escripts.eai.eu/welcome), a novel Web 2.0 crowd-review system based on a reviewer bidding procedure.

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Specifically, reviewers are chosen on open, transparent, crowd evaluation of their related review qualification. Once an author submits a paper, e-Scripts opens a unique bidding process which provides the title and abstract of the paper available to the whole community. Operating under the auspices of the European Commission, e-Scripts tool shortens time, makes the review fair, and allows best reviewers to be chosen objectively.

Ultimately, fostering high-quality papers to benefit the community. All we do and all the Journal about is to welcome authors worldwide and serve good submissions, no matter theoretical or practical or their combined, relevant to the following broad scope of collaborative computing. It is the Journal's mission to turn authors' timely research ideas into useful seeds for industry, while avoiding today's research results stuck in the reviewing pipeline line for months, if not years. Specifically, thanks to the first papers submitted during our Editorial Board launched the duty, now the first review processes are over and here we present the first accepted papers to the community. We are thus very proud to welcome you, on behalf of the Editorial Board, to this inaugural issue of the *EAI Transactions on Collaborative Computing* (http://eai.eu/transaction/collaborative-computing).

EAI Trans. on Collaborative Computing

With the recent advances in computing and information technologies, we are seeing unprecedented opportunities for increased electronic collaborations among individuals and distributed teams of humans, computer systems/applications, robots, and/or a highly heterogeneous set of computing devices. Computing technologies have continued to evolve from standalone tools, to open systems and from general purpose tools to specialized collaboration grids, clouds and infrastructures that facilitate intensive collaboration in multi-organizational settings, as well as in the context of global scale social interactions and worksharing. Such collaborations are enabling large and globally dispersed organizations to achieve a much higher level of productivity and jointly produce innovative and powerful products that would be impossible to develop without the contributions of multiple collaborators. Novel collaboration solutions that fully realize the promises of electronic collaboration, and pushes the limits of human endeavor, productivity and discovery require innovations and advancements in broad areas of computing including networking, systems, applications and even big data, user interfaces and interaction paradigms, as well as seamless interoperation among system, network and application-specific components and tools.

The goal of *EAI Transactions on Collaborative Computing* is to serve as a premier international venue for publishing innovative and cutting edge research results in theory as well as applied systems, applications and networking areas that enable intensive and efficient collaboration across and among networked cloud computing platforms, cyber-physical and social systems and applications, individuals as well as enterprises. Sample topics of interest include, but are not limited to:

- Architectures, protocols, and enabling technologies for collaborative networks, systems and applications
- Sustainable green computing, quality of services, and energy management in collaborative networks, systems, and applications
- Collaboration and interaction techniques in cloud computing, datacenters, pervasive, context-aware, social networking, peer-to-peer (P2P), and cyber-physical/Internet-of-things environments
- Collaborative multimedia systems/applications, mobile-cloud computing (MCC) systems/applications, crowdsourcing systems/applications, large-scale Internet content distribution systems/applications
- BigData and databases in collaborative environments/systems
- Collaboration in e-health, e-learning, e-government, and digital libraries
- Collaborative network infrastructures such as software defined networks (SDN), body area networks, wireless sensor networks, VANETS, mobile networks, etc.
- Security, privacy, resiliency/survivability and trust management in collaborative networks, systems, and applications
- Theoretical foundations and algorithms for collaborative networks, applications, and worksharing
- Measurement, simulation, performance evaluation, implementation, experiments, and case studies of collaborative environments
- Collaborative web services technologies, economy and business models, workflows, and service-oriented systems and architectures
- Models and mechanisms for real-time and large scale collaboration, information sharing and worksharing
- Human-robot collaboration, etc.

Additional materials such as videos of installations and operations, public data and open source codes, or demo links are very welcome as links in the provided PDF.

Besides classical research journal papers, EAI Transactions on Collaborative Computing also accepts technical surveys and reviews.

The Inaugural Issue

For this inaugural issue, we publish five papers coming from different research domains and of different types. This mix is well representative of the wide variety of topics covered by collaborative computing technologies.

The first paper "Automated Dimension Determination for NMF-based Incremental Collaborative Filtering" by Wang et al. proposes a nonnegative matrix factorization

(NMF) based data update approach that can determine the dimensions of the factor matrices and update them automatically. It can update the data quickly and provide encouraging prediction accuracy in recommender systems.

The second paper "A Novel Architecture for Online Social Networks that Protects the Privacy of their Members" by Wang and Minsky describes a novel architecture that adopts the decentralization idea underlying decentralized online social networks. It is able to subject the membership of a community, and the interaction between its members, to a wide range of policies, including privacy-preserving narrowcasting and profile-sensitive search.

The third paper "Emergency Response using Ephemeral Social Communities across Online Social Networks" by Jung et al. presents Whistle+ – a cooperation framework for online social network users which can dynamically organize an emergency community with nearby eligible users who are distributed in heterogeneous online social networks, and guarantee secure communication, unrestricted cooperation and resource sharing.

The fourth paper "An Analytical Study of Computation and Communication Tradeoffs in Distributed Graph Processing Systems" by Abdolrashidi and Ramaswamy proposes a novel model for analyzing the performance of vertex-centric graph processing cluster. Using three graph algorithms as case studies, they also characterize the inherent tradeoff between the computational load distribution and the communication overheads.

Finally, the paper "A Collaboration Model for Community-Based Software Development with Social Machines" by Murray-Rust et al. presents models and techniques for coordination of human workers in crowdsourced software development environments. It combines the Social Compute Unit—a model of ad-hoc human worker teams—with versatile coordination protocols expressed in the Lightweight Social Calculus.

We would like to take this opportunity to acknowledge all the authors and reviewers who contributed to this very nice inaugural issue of the journal.

The very proactive Editorial Board also provided a strong support in founding this new and exciting journal on collaborative computing.

Last but not the least, we are thankful to all EAI publication staff, in particular, Sara Fruner and Lucia Kisova, for their constant support and reactivity.

Welcome to the EAI Transactions on Collaborative Computing!

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About the Editor-in-Chief

Fangming Liu is a Full Professor in the School of Computer Science and Technology, Huazhong University of Science and Technology, Wuhan, China. Prof. Liu is selected into National Youth Top Talent Support Program of National High-level Personnel of Special Support Program (The "Thousands-of-Talents Scheme") issued by Central Organization Department of CPC, and he is named the CHUTIAN Scholar of Hubei Province, China. He is one of the Youth Scientists of the National 973 Basic Research Program Project on Software-defined Networking (SDN)-based Cloud Datacenter Networks, which is one of the largest SDN projects in China. From 2012-2013, he has been invited as a StarTrack Visiting Young Faculty in Microsoft Research Asia (MSRA), Beijing.

He received the B.Eng. degree from the Department of Computer Science and Technology, Tsinghua University, Beijing, and the Ph.D. degree from the Department of Computer Science and Engineering, Hong Kong University of Science and Technology, Hong Kong. From 2009 to 2010, he was a visiting scholar at the Department of Electrical and Computer Engineering, University of Toronto, Canada.

His research interests include Cloud Computing and Data Center, Green Sustainable Computing and Communications, Mobile Cloud, SDN and Virtualization, Internet Content Distribution and Peer-to-Peer (P2P) Systems. He has published a series of high-quality papers at prestigious journals and highly selective conferences, including Proceedings of the IEEE, IEEE Journal on Selected Areas on Communications (JSAC), IEEE/ACM Transactions on Networking (ToN), IEEE Transactions on Parallel & Distributed Systems, IEEE Transactions on Computers, ACM/IFIP/USENIX Middleware,

INFOCOM, ICDCS, ICNP, ACM NOSSDAV, e-Energy, SIGMETRICS, etc. Many of these works have influenced follow-up works in the related fields. He received ACM Wuhan Rising Star Award, and is a co-recipient of two Best Paper Awards from IEEE GLOBECOM 2011 (Global Communications Conference, Exhibition, and Industry Forum) and IEEE IUCC 2012 (11th IEEE International Conference on Ubiquitous Computing and Communications), respectively. In particular, several key algorithms and system prototypes developed by Prof. Liu and his team have been deployed in real-world production systems, which have been practically used by a large scale of Internet users.

He is a member of IEEE and ACM, as well as a member of the China Computer Federation (CCF) Internet Technical Committee, System Software Technical Committee, Open Systems Technical Committee, and CCF YOCSEF Wuhan Vice Chair. He was a Guest Editor for the IEEE Network Magazine and IEEE Systems Journal, an Associate Editor for the Frontiers of Computer Science. He was the Program Chair/co-Chair of the 9th International Conference on Green, Pervasive and Cloud Computing (GPC 2014), the 11th EAI International Conference on Collaborative Computing: Networking, Applications and Worksharing (CollaborateCom 2015), and the 14th National Software Application Conference (NASAC 2015). He also served as the Technical Program Committee (TPC) for the ACM Multimedia 2014, ACM e-Energy 2016, IEEE INFOCOM 2013-2016, ICNP 2014, ICDCS 2015-2016, GLOBECOM 2012-2015, IWQoS 2016.

About the Co-Editor-in-Chief

Jiangchuan Liu is a Full Professor in the School of Computing Science, Simon Fraser University, British Columbia, Canada, and an NSERC E.W.R. Steacie Memorial Fellow. He is an EMC-Endowed Visiting Chair Professor of Tsinghua University, Beijing, China (2013-2016). From 2003 to 2004, he was an Assistant Professor at The Chinese University of Hong Kong.

He received the BEng degree (cum laude) from Tsinghua University, Beijing, China, in 1999, and the PhD degree from The Hong Kong University of Science and Technology in 2003, both in computer science. He is a co-recipient of the inaugural Test of Time Paper Award of IEEE INFOCOM (2015), ACM TOMCCAP Nicolas D. Georganas Best Paper Award (2013), ACM Multimedia Best Paper Award (2012), IEEE Globecom Best Paper Award (2011), and IEEE Communications Society Best Paper Award on Multimedia Communications (2009).

His students received the Best Student Paper Award of IEEE/ACM IWQoS twice (2008 and 2012). His research interests include multimedia systems and networks, cloud computing, social networking, online gaming, big data computing, wireless sensor networks, and peer-to-peer and overlay networks. He has served on the editorial boards of IEEE Transactions on Big Data, Transactions on Multimedia, IEEE Communications Surveys and Tutorials, IEEE Access, IEEE Internet of Things Journal, Elsevier Computer Communications, and Wiley Wireless Communications and Mobile Computing.