Invited Talk

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Operational Transformation: Theory and Application

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Abstract
Operational transformation (OT) is a technology for supporting advanced collaborative computing functions and applications. OT was originally invented for consistency maintenance and concurrency control in collaborative editing of plain text documents. Two decades of research has extended its functionalities and expanded its applications to include group undo, conflict resolution, operation notification and compression, group-awareness, HTML/XML document editing, collaborative office productivity tools, and collaborative computer-aided digital media design tools. Recently, OT has been adopted as a core technique behind its collaboration features in Google Wave, which is taking OT to a new range of web-based applications and services, such as e-mail, instant messaging, blogging, wiki, and social networking, and creating a new wave of collaborative computing. This talk will give an overview of OT theories and applications, and discuss the opportunities and challenges of OT in the new wave of collaborative computing. The speaker is a leading researcher on OT, with over 15-year experiences in designing OT algorithms and building OT-based collaborative applications.

Biography
Dr Chengzheng Sun is a professor in the School of Computer Engineering at Nanyang Technological University (NTU) in Singapore (http://www.ntu.edu.sg/home/czsun).

He obtained a Ph.D in computer engineering from National University of Defense Technology, China in 1987, and a Ph.D in computer science from University of Amsterdam in 1992. From 1988 to 1993, he worked as a research scientist and a senior software engineer in University of Amsterdam, Philips Research Labs Eindhoven, and the ACE software company in The Netherlands. From May 1993 to June 2005, he worked at Griffith University in Australia and became a full professor and Chair of Internet Computing in 1999. He has been associated with NTU Singapore since July 2005.

His current research focuses on collaborative Internet computing, which lies at the intersections of Computer-Supported Cooperative Work, distributed systems, human-computer interaction, and software engineering. His work has made important contributions to the theory, implementation and application of the operational transformation technology and collaborative editing systems. He has published extensively in major international journals and conferences, and delivered seminars and tutorials on collaborative technology widely at major international conferences, universities, and industry research labs, including a recent Google Tech Talk (http://www.youtube.com/watch?v=84zqbXUQIHc).