Design and Development of Collaboration Technologies

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Collaboration is a key driver for organizational performance. The impact of collaboration on organizational performance is more critical than strategic orientation or market and technological turbulence. However, successful collaboration is often difficult. Groups and teams often need to overcome both physical and metaphorical distance. Other challenges include groupthink, dominance, lack of efficiency, lack of focus, overwhelming information, differing motivations, and uncertainty. Added to this milieu of human collaboration challenges, artificial agents and intelligent technologies are beginning to act as teammates and co-collaborators.

The challenge for researchers and practitioners alike is to design sustainable processes and systems within and between organizations that allow people, groups, teams and machines to collaborate successfully. This challenge has many dimensions that cross technical, behavioral, social, emotional, economic, and political boundaries. This mini-track invited papers that address the theory, design and deployment of collaboration processes and systems within and between organizations, groups, teams, and machines. We provide one of the key international platforms to discuss cyber-facilitated human-to-human collaboration and how it is evolving through technological innovation and new processes. Specifically, this mini-track focuses on:

1. Theoretical foundations and design methodologies for collaborative work practices and technologies
2. Processes and tools for establishing and maintaining shared focus and shared mental models over time
3. Processes, technologies, and theoretical breakthroughs to improve and speed up shared sense-making
4. Methods and technologies for eliciting and capturing tacit knowledge from experts (i.e., externalization) and sharing / incorporating that knowledge into collaborative efforts (i.e., team internalization)
5. Facilitation methods, techniques, patterns, and procedures to improve (a)synchronous collaboration between co-located and distributed people, teams, or groups
6. Assessment models and methods for team collaboration and performance
7. Design, codification and reuse of work practices and pattern languages for group collaboration
8. Design and building of automated virtual agents to participate in online collaborations (e.g., ChatOps)

This year, we have five great papers that cover a variety of important topics. The first paper, "Multi-Organizational Multi-Stakeholder Collaboration Systems: An Exploratory Research Study of Design Concerns in Healthcare", is an excellent exploratory paper that provides design insights in healthcare systems that maybe applicable to other domains. Second, "Discerning the Role Context Plays in the Value of Information" presents a multi-facetted experiment meant to discern a soldier's value of information within varying military contexts. Third, "Enhancing Group Social Perceptiveness through a Swarm-based Decision-Making Platform" presents the results of a study investigating if groups working as online "human swarms," can amplify their social intelligence as measured by a social sensitivity (RME) test. The fourth paper, "Crowdsourcing Convergence: Aggregating Partial Clusters to Facilitate Collaborative Convergence" investigates the possibility of using crowdsourcing to execute part of the collaborative convergence process. Finally, "Observing Team Collaboration Personality Traits in Undergraduate Software Development Projects" examines team member collaborative personality traits and observes their relationship to grades during an undergraduate software engineering course.

We thank the authors for submitting their work to make this an engaging mini-track. We hope you enjoy the papers and their presentations at the conference and look forward to the collaboration and insights.