

Design and Development of Collaboration Technologies

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Collaboration continues to be an essential application of information and communication technologies. The importance of this application has seldom been more evident nor more salient than in today's world. In the year 2020, people work remotely more than ever and spend less time face-to-face due to COVID-19's impact. Never have so many people used collaborative technologies for so many varied purposes. The value of new developments in collaboration technology has never been higher. For this year, collaborative systems have been one of the most vital forces in the business world. Many businesses could not survive without these technologies. This forced digital transformation has impacted almost all organization processes: decision-making, project management, fundraising, recruiting, training, development, etc. Given the importance of collaboration in day-to-day life, this mini-track explores vital issues around collaboration technologies. The mini-track provides a platform to explore how technological innovation and new processes are reshaping computer-mediated, human-to-human collaboration.

This year's papers provide a broad look at collaboration technology—technology used to gather and combine ideas from various people, change the way we work with new productivity tools, influence how we see our goals, and change the way we communicate. As we gain a better understanding of the relationship between collaborators and their technological tools, we can improve these tools' ability to facilitate effective and meaningful sharing of ideas.

Specifically, this mini-track addresses the following topics:

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 four papers covering the design and creation of collaboration technology. The first paper, "Eliciting group judgments about replicability: a technical implementation of the IDEA Protocol," examines the behavioral research replication crisis and uses a novel platform to gather expert opinion on research replicability. "Productivity Challenges in Digital Transformation and its Implications for Workstream Collaboration Tools" examines productivity challenges in the modern workplace and proposes ways that collaboration tools might address those challenges. The paper "Exploring the Effects of Real-Time Hologram Communication on Social Presence, Novelty, and Affect" examines a new communication technology—holograms—and their effect on feelings of presence and affect during a virtual meeting. Finally, "An Experimental Test of the Yield Shift Theory of Satisfaction In the Field" examines the impact of goal replacement on satisfaction ratings.

We thank the authors for their effort in preparing these excellent manuscripts for the conference. We hope you enjoy the papers and presentations at the conference and look forward to more insights for enabling collaborative work.