

Speed vs. Accuracy vs. Awareness

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Interest in Co-located Collaboration

I have experience working on tabletop display technology as an undergraduate student in the EDGE Lab at Simon Fraser University, as a Master's student at The University of British Columbia, and as an intern at Mitsubishi Electric Research Labs (MERL). I have just started my first year of the Ph.D. program at the University of Calgary with Dr. Sheelagh Carpendale. My work includes experiments on a variety of tabletop display technologies, including pen-based interfaces as well as the multi-user, multi-touch DiamondTouch tabletop display.

Research Vision

I envisage a computing environment that supports a seamless transition between interaction techniques that maximize individual performance and those that maximize group awareness. Recent user studies that I have conducted suggest that the group strategy (not the designer) can be what decides the balance of the three variables: speed, accuracy and awareness. Group members can choose to completely ignore one another and complete a task as fast or as accurately as they can. Alternatively, they may choose to move more slowly or less precisely in order to keep track of their partners' actions. Instead of designing an interface that provides for only one of these strategies, the designer should focus on how to support the transition from one strategy to the next.

I also believe that the breakdown of group work into speed, accuracy, and awareness may allow researchers to compare a variety of interfaces, despite differing group strategies in the same way that the consideration of both speed and accuracy can help to understand the benefits of a single-user system in light of differing individual strategies. A better understanding of the effects of an interface on these three variables may improve the design of co-located collaborative applications.

Motivation for Workshop Participation

Recent user studies in which I have been involved have motivated me to pursue work into the tradeoff between group awareness and individual performance in co-located collaborative applications for my Ph.D. thesis. I feel that this workshop will help to provide me with a better understanding of proper evaluation methodologies for the simultaneous analysis of speed, accuracy and awareness. At this workshop, I hope to learn of past and ongoing research that may provide insight into the understanding of this tradeoff. I would also like the opportunity to meet others who are working on co-located collaborative applications.