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WYSIWIH — WHAT YOU SEE IS WHAT I HEAR: GIVING BLIND USERS ACCESS TO VISUAL COLLABORATION

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The goal of this project is to investigate how collaboration between blind and sighted users can be facilitated using computers, and to what extent sound can be used as the only means of output for the blind user.

One of the main assumptions of this work is that it is important not only to find a solution that is accessible, but also that it mimics its graphical counterpart both in the presentation of and the interaction with the information. The reason for this constraint is the belief that an important part of the collaboration is the sharing of not only the goal but also the means of achieving that goal. In a collaborative setting, this enables the users to share their work, to give and receive help, to exchange ideas and workarounds to common problems etc.

In a collaborative study of cross-modal collaboration, a blind and a sighted user played a game taking turns in moving towards a shared goal. The subjects did not share any of the presentation, the sighted subject did not hear what the blind subject heard in the headphones, and the blind subject did not see what was presented on the sighted subjects screen, but the underlying model of the game was the same.

This collaboration involved mutual understanding of the locations of the objects, negotiating the strategy for solving the game, collaborative error recovery, and effective turn taking.

The results suggests that for the blind subject, the auditory interface was used as an added resource rather than being the primary means of understanding the game. Sound together with memory, interaction with the other subject, and gestures was used to understand and play the game. Additionally, sound was used differently whether it was the blind or the sighted subject's turn to move.