

LFE Medieninformatik • Felix Lauber

Interactive Displays for Creativity Support

Medieninformatik Hauptseminar
Sommersemester 2009
„Interactive Surfaces“

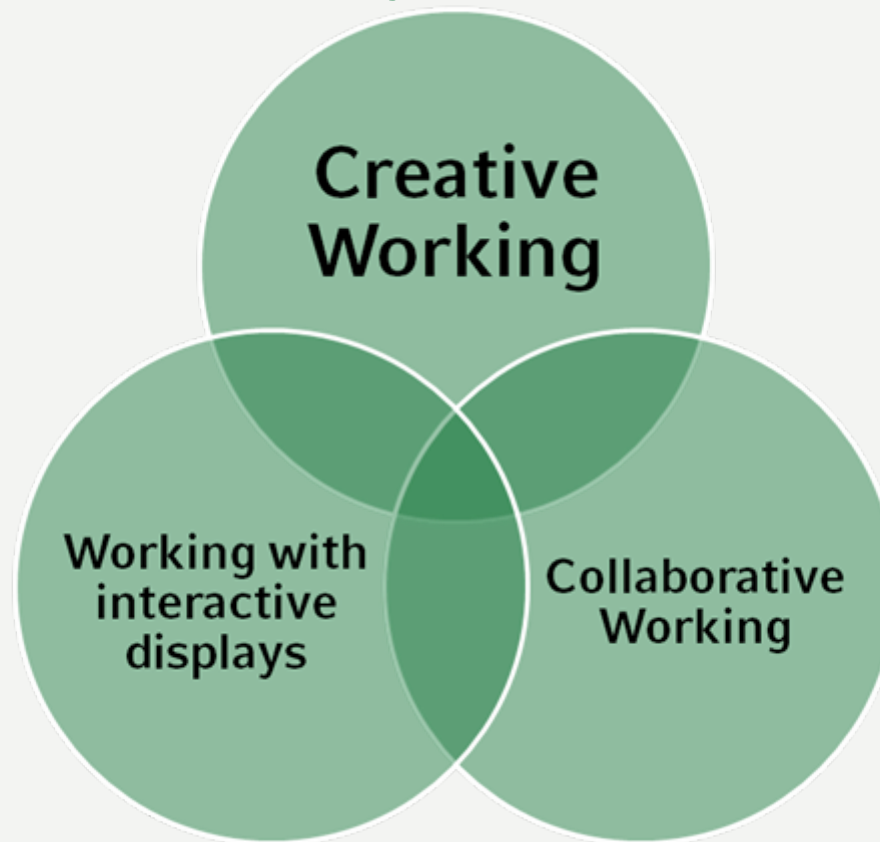


Supporting creative processes technologically

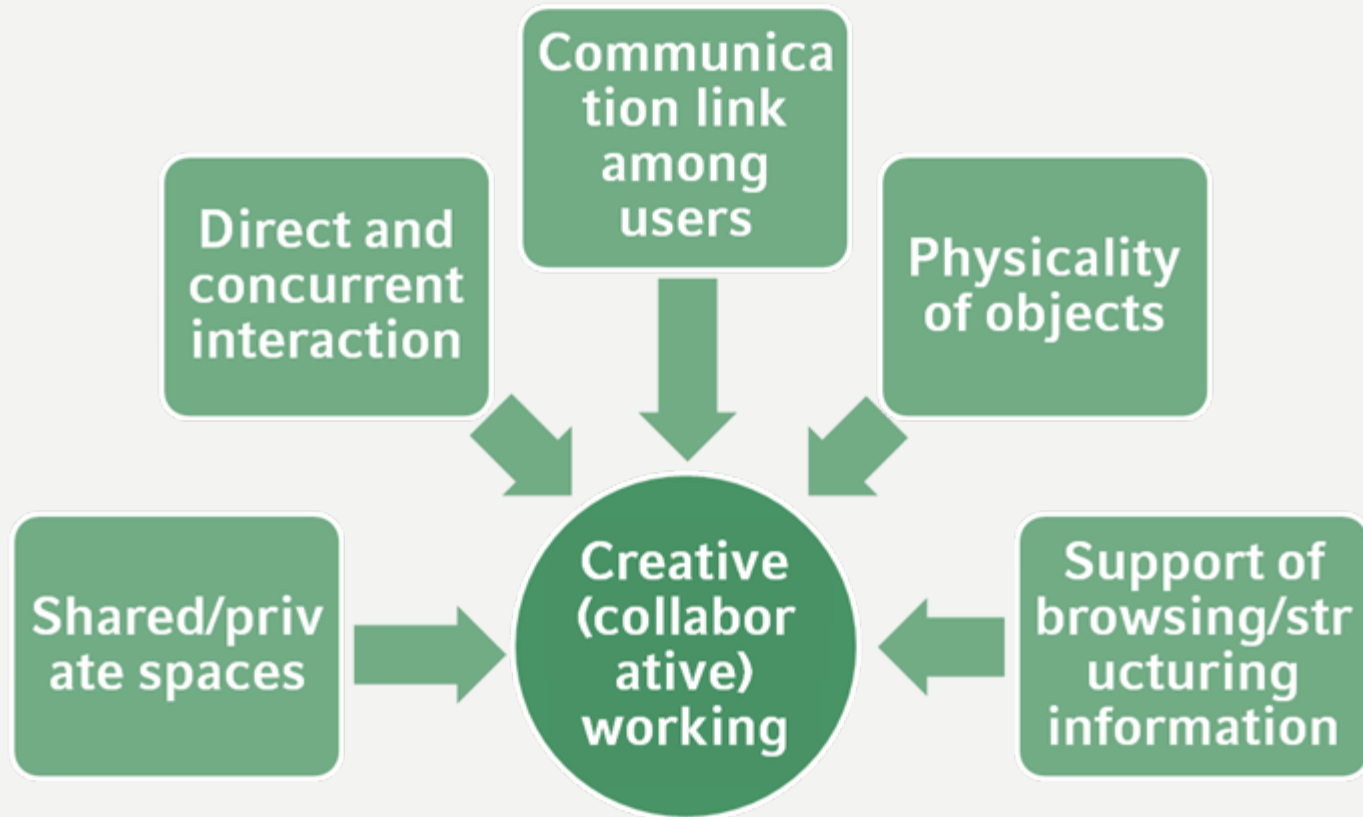
Combination of the Advantages of both worlds:

Digital Technology	Interpersonal Communication
Persistent data storage	Verbal communication
Easy information Access	Non-verbal communication
Navigation within working flow	Interpersonal interaction

Creativity, collaborative working and interactive displays



Design Considerations

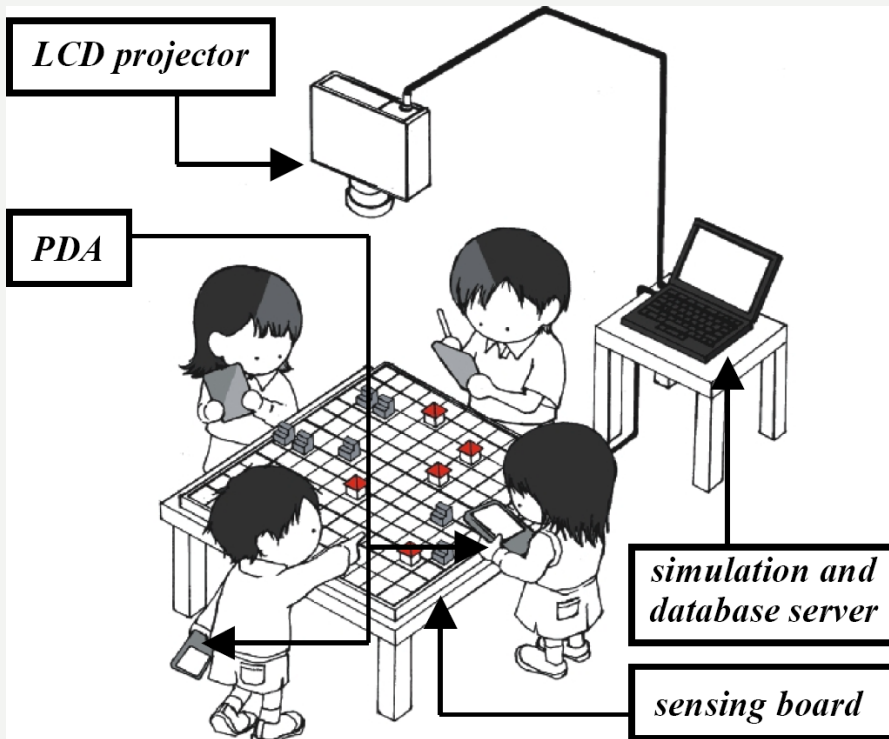




Separation of shared spaces and private spaces

- Two different phases in creative working processes:
 - Generative Phase
 - Structural Phase
- Each phase can be supported by using dedicated application-spaces
- Applies especially to applications using interactive displays
- Implemented mostly by using different devices

Example: Caretta



[1]



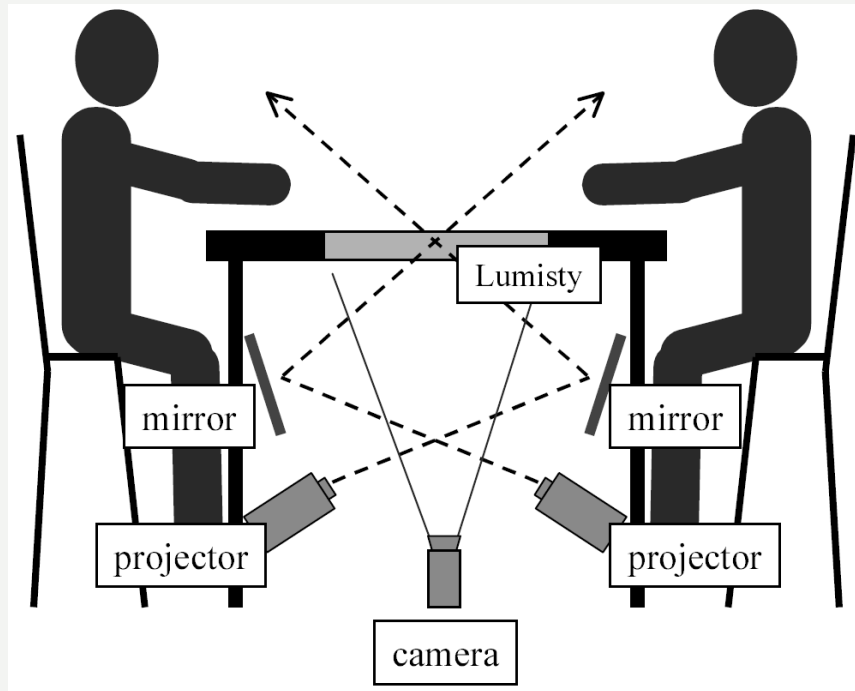
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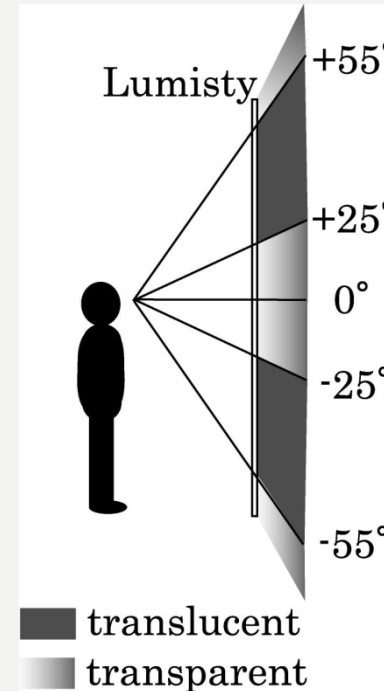
Direct and concurrent interaction by all users at any time

- In collaborative tasks potential problem of production block
- Two possible solutions:
 - Each user interacts with his own device
 - One device is shared by all users →
- Problem: Last solution applied to horizontally aligned displays Orientation

Example: Lumisight Table



[2]



[2]



Direct communication link among the users

- Concerning exchange of digital data
- Additional demand found out in user studies
- Scenario 1: Merging results
- Scenario 2: Exchange of Markers
- Scenario 3: Remote collaboration

Example: iLand



[3]



[3]



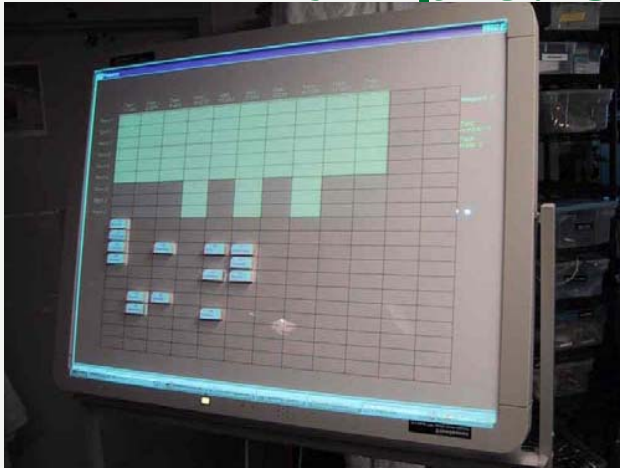
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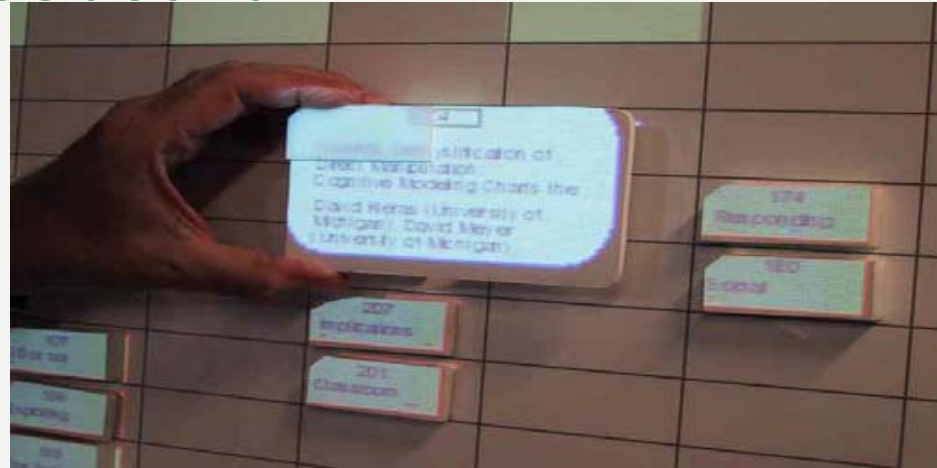
Physicality of objects

- Three Variations:
 - Tangible user interfaces
 - Digital metaphors
 - Physical behaviour of objects
- Facilitates comprehension of the user interface
- Interaction more intuitive
- Better performance in creative tasks

Example: Senseboard



[4]



[4]



[4]



Automated support of browsing and structuring information

- Common subtasks in creative work:
 - Browsing information
 - Structuring (large amount of) pieces of information
- Consideration: How can we support these tasks in the application?
- Example: Brainstorming

Example: CombinFormation

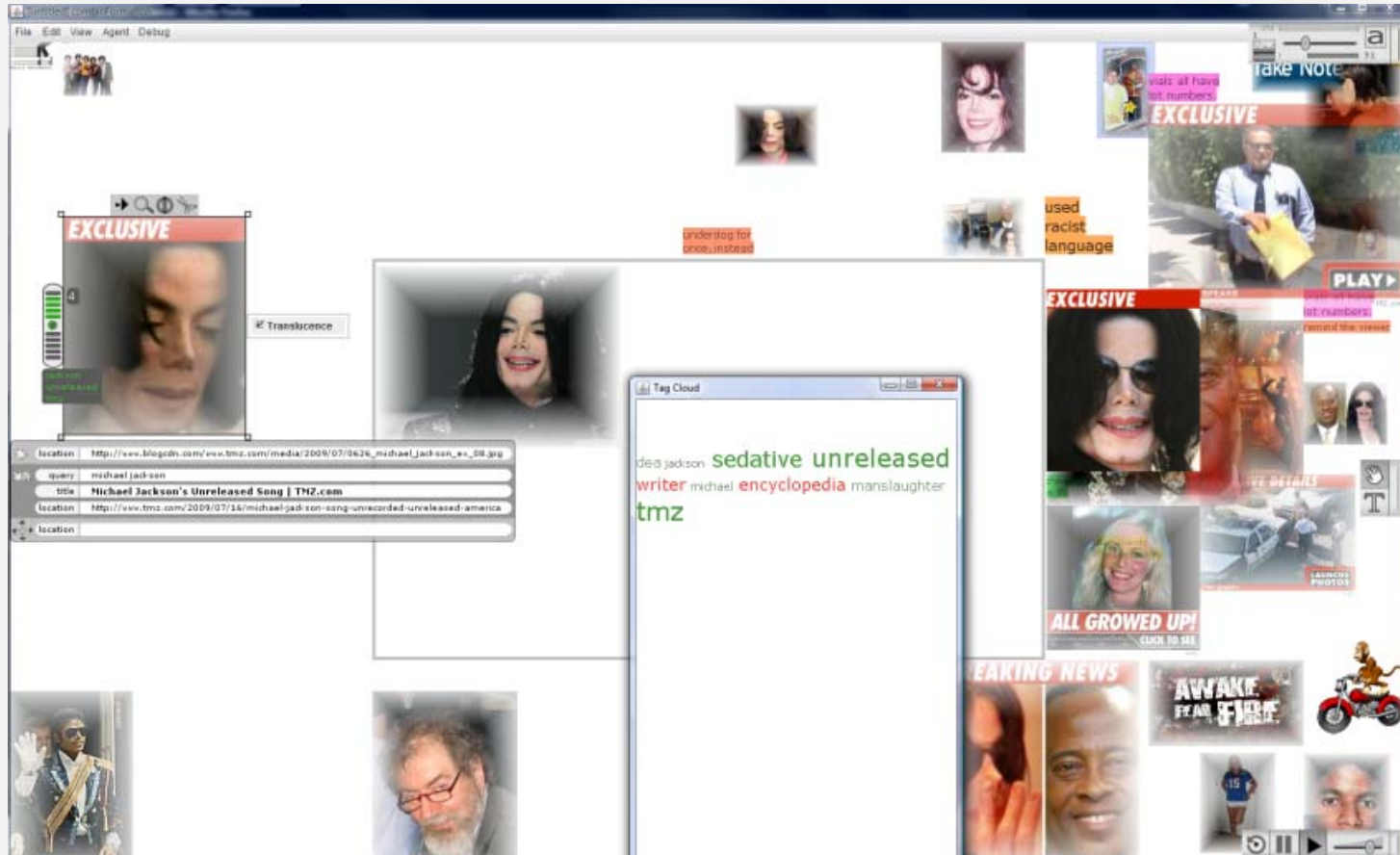




Image references

- [1] M. Sugimoto, K. Hosoi, and H. Hashizume. Caretta: a system for supporting face-to-face collaboration by integrating personal and shared spaces. In CHI '04: Proceedings of the SIGCHI conference on Human factors in computing systems, pages 41–48, New York, NY, USA, 2004. ACM.
- [2] M. Matsushita, M. Iida, T. Ohguro, Y. Shirai, Y. Kakehi, and T. Naemura. Lumisight table: a face-to-face collaboration support system that optimizes direction of projected information to each stakeholder. In CSCW '04: Proceedings of the 2004 ACM conference on Computer supported cooperative work, pages 274–283, New York, NY, USA, 2004. ACM.
- [3] N. A. Streitz, J. Geißler, T. Holmer, S. Konomi, C. Müller-Tomfelde, W. Reischl, P. Rexroth, P. Seitz, and R. Steinmetz. i-land: an interactive landscape for creativity and innovation. In CHI '99: Proceedings of the SIGCHI conference on Human factors in computing systems, pages 120–127, New York, NY, USA, 1999. ACM.
- [4] R. J. K. Jacob, H. Ishii, G. Pangaro, and J. Patten. A tangible interface for organizing information using a grid. In CHI'02: Proceedings of the SIGCHI conference on Human factors in computing systems, pages 339–346, New York, NY, USA, 2002. ACM.