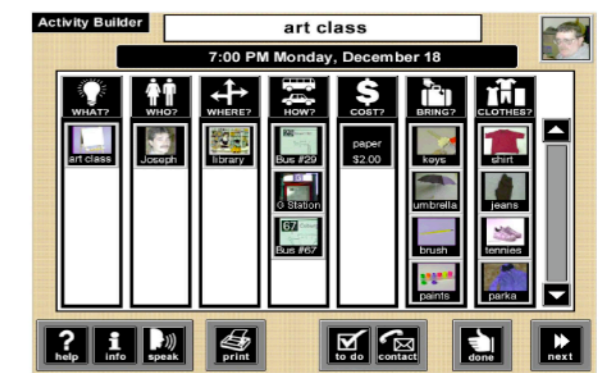


CHI 2006 Workshop on Designing Technology for People with Cognitive Impairments



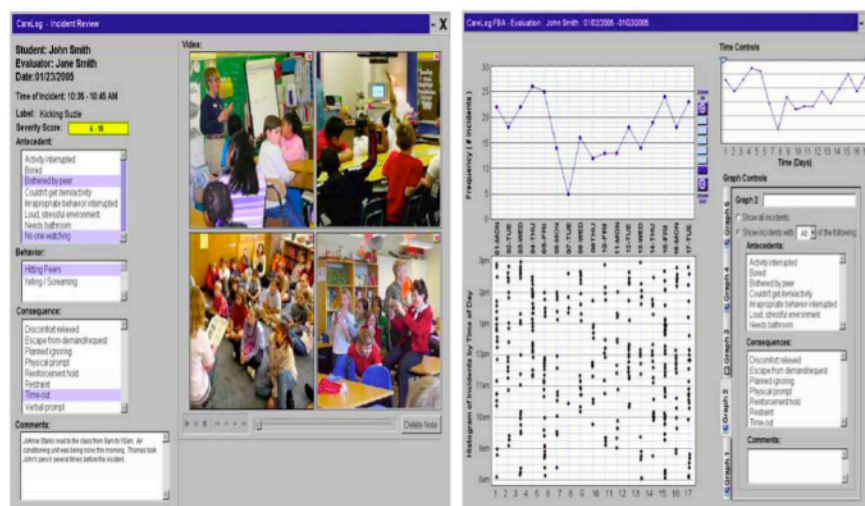
Joanna McGrenere, University of British Columbia
Jim Sullivan, University of Colorado
Ronald Baecker, University of Toronto
Stefan Carmien, University of Colorado



Invited Participants (Keynotes):

Alan Newell, Ph.D., M.B.E., F.R.S.E., Professor of Applied Computing, University of Dundee, Scotland : A user centred approach to supporting people with cognitive dysfunction

Elliott Cole, Ph.D., Principle Scientist, Institute for Cognitive Prosthetics, USA : Patient-Centered Design as a Research Strategy for Cognitive Prosthetics: Lessons Learned from Working with Patients and Clinicians for 2 Decades



Goals:

- To bring together the community of researchers who are creating cognitive technologies to share best practices.
- To generate new conceptual frameworks for how to advance assistive technology research for people with cognitive impairments.
- To identify fundamental differences, similarities, and synergies between different user populations with cognitive impairments and their caregivers.

Participants are drawn from: Canada, USA, UK, and Europe:

- Backman, A., Bodin, K., Bucht, G., Janlert, L., Maxhall, M., Pederson, T., **Sjolie, D.**, Sondell, B., Surie, D., easyADL – Wearable Support System for Independent Life despite Dementia
- **Baecker, R.**, Designing Electronic Memory Aids: A Research Framework
- Boyd-Graber, J., and **Nikolova, S.**, Design with Proxies: A Desktop-PDA System for People with Aphasia
- **Carmien, S.**, Assistive Technology for Persons with Cognitive Disabilities – Artifacts of Distributed Cognition
- **Dawe, M.**, Designing a Remote Communication Device with Young Adults with Cognitive Disabilities and Their Families
- **Estelle, J.**, Kirsch, N., and Pollack, M., Enhancing Social Interaction in Elderly Communities
- **Fischer, G.**, Socio-Technical Environments Supporting People with Cognitive Disabilities
- **Fourney, D.**, Including Cognitive Disabilities in International Standards
- **Goler, J.A.**, Selker, E.J., and Wilde, L.F., Augmenting Voting Interfaces to Improve Accessibility and Performance
- **Keating, T.**, Picture Planner: An Icon-Based Personal Management Application for Individuals with Cognitive Disabilities
- **Lee, M.**, and Dey, A., Capturing and Reviewing Context in Memory Aids
- **Lundell, J.**, and Morris, M., Design Research Techniques for Elders with Cognitive Decline: Examples from Intel's Digital Health Group
- **Malmberg, L.**, Jonsson, B., and Svensk, A., Situated Probing
- **Massimi, M.**, A Context-Aware Mobile Phone for Remembering Names and Faces
- **Moffatt, K.**, Findlater, L., Allen, M., Generalizability in Research with Cognitively Impaired Individuals
- **Sullivan, J.**, and Gorman, A., Extending the Caregiver Network: Remote Support Systems for People with Cognitive Disabilities Living in the Community
- Wherton, J., and **Monk, A.**, Cognitive Support for Dementia
- **Wu, M.**, Collaborative Memory Technology for Supporting the Care Network



Several research groups are actively now designing technologies to serve communities of people with cognitive impairments and their caregivers. For some individuals, cognitive impairments are diagnosed at birth and present stable and well understood learning difficulties that impact how a person will live, work, and participate in society. For others, cognitive impairments result from an injury or illness and present short-term or long-term difficulties. For others still, including the growing elder population, cognitive impairments may be slow, degenerative and progressive. For nearly all, there are profound impacts on a person's social network that must also be considered when designing technology for people with a cognitive disability.

This workshop brings together researchers and practitioners who are exploring issues concerning the design, implementation, and assessment of technologies to serve people with cognitive impairments and their caregiver communities. We will explore issues related to design methodologies, software and hardware implementations, and assessment.

Challenges and Themes:

- identification of appropriate design methods, practices, and evaluation methods
- subject recruitment – are there typical or representative users, or is everyone unique (“universe of one” vs. generalizability)?
- sources for research partnerships and funding
- importance of multi-disciplinary teams
- understanding diagnoses vs. functional assessments – how can these be used in design?
- requirement for dual user interface development (UI for the caregiver and for the target end user)
- exploring the boundary between assistive technology and rehabilitative technology
- North American vs. non-North American perspectives and approaches to developing cognitive technologies



Workshop Outcomes

Position papers at: <http://cs.ubc.ca/~joanna/CHI2006Workshop-CognitiveTechnologies>

Key Issues Discussed

- 1) Characteristics of participatory design for our population
- 2) What and how to Evaluate
- 3) Unintended consequences of our designs
- 4) Issues of privacy and consent
- 5) Dual user interfaces?
- 6) Research frameworks
- 7) Ethnography in this domain