

Health: The Design, Planning and Politics of How and Where We Live

- **Paper / Proposal Title:**

Somability: movement, independence and social engagement in adult day-care settings

- **Format:**

Written paper

- **Author(s) Name:**

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- **Abstract (300 words):**

This paper describes a digital interaction project, Somability, developed with a day centre for adults with profound and multiple learning disabilities (PMLD) [1]. Our non-competitive, arts-based approach to technology design was intended to attune to the organisation's objective of supporting service users to lead an independent and fulfilled life [2, 9]. Using camera and projection technologies to graphically draw attention to the moving body, the design focused on embodied interaction as a method of *making movement irresistible*, rewarding the most tentative of interest with bold, dynamic effects [3, 4].

Adopting a participatory methodology, we brought our professional experience as designers into the day-care centre, employing playful, non-digital techniques to generate ideas and bring them to life [4, 5]. Support workers collaborated with us on visualising scenarios for bodily interaction through sketching and role-play with paper artifacts [6, 7].

Within the Somability graphical interface, representations of movement aimed to facilitate a palpable connection between affect and effect, to make any movement matter and to avoid discounting actions that may be perceived as meaningless. Support workers were encouraged to contribute imaginative scenarios for integrating the technology within the service. They were particularly interested in using the physical environment to support transition – transforming rooms and encouraging awareness of boundaries, space and proximity [8]. As the project progressed they advised us on the design of an evaluation diary, which enabled them to value new, emergent responses to Somability [9]. Observations revealed that even service users with very limited movement were able to interact, and dramatic increases in dynamic movement were widely reported. Staff expressed a deep sense of ownership and promoted the project throughout the service. Collaboration with dancers led to Somability performances in public venues, demonstrating how a simple design that makes movement irresistible could offer an inclusive movement intervention within community settings.

[1] <https://www.mencap.org.uk/advice-and-support/profound-and-multiple-learning-disabilities-pmld>

[2] Keay-Bright, W. and Gethin-Lewis, J., (2011). Co-Creating Tools for Touch: applying an inspire-create-play-appropriate methodology for the ideation of therapeutic technologies. Include conference proceedings, RCA, UK.

[3] Kirsh, D. (2013). Embodied cognition and the magical future of interaction design. ACM Trans. Computer Human. Interact. 20, 1, Article 3

[4] Noland, C. (2009). Agency and Embodiment: Performing Gestures/Producing Culture. Cambridge, MA. Harvard University Press.

[5] Frauenberger, C, Good J, Keay-Bright W. (2011). Designing technology for children with special needs: bridging perspectives through participatory design. CoDesign. 7(1),1-28.

[6] Höök, K., Sengers, P. & Andersson, G., (2003), April. Sense and sensibility: evaluation and interactive art. In *Proceedings of the SIGCHI conference on Human factors in computing systems* (pp. 241-248). ACM.

[7] Mogensen, P. and Trigg, R. (1992), Artifacts as triggers for participatory analysis. In Kuhn, Muller, and Meskill (Ed.), *Proceedings of the Participatory Design Conference (PDC)*, Boston, MA.

[8] Collins, H. (2010) *Tacit and Explicit Knowledge*. London: Univ. of Chicago Press.
Winnicott, D. W. (1971). *Playing and reality*. New York: Routledge.

[9] <https://www.asdan.org.uk/courses/programmes/towards-independence>

• **Author(s) Biography (200 words each):**

Wendy Keay-Bright is Professor of Technology and Inclusion at Cardiff School of Art and Design. With her award winning projects, ReactTickles, ReactTickles Magic, Somantics and Somability she has created open-source software, educational resources, training and publications that demonstrate the impact of inclusion and playfulness in design innovation.

Since winning her first NESTA Award in 2005 Wendy has led a range of participatory design projects with hard to reach audiences, gaining funding through the National Film Board of Canada, Rayne Foundation, Higher Education Academy, Technology Strategy Board, ESRC, Arts Council of Wales and the Raspberry Pi Foundation.

The impact of this work reaches beyond the creation of software and resources. Practitioners and organisations have participated in bespoke workshops and used her applications worldwide - from Rhondda Cynon Taf, in the heart of the South Wales valleys, to Melbourne, Australia - gaining access to ideas, strategies and techniques that promote technology and inclusion. Her recent work, Somatopia, pioneered inclusive design methods for novice coders, providing opportunities to explore gesture-based interaction in novel, user-defined contexts.

Wendy is a Fellow of the Royal Society of Arts and a volunteer facilitator of the *InSync* inclusive theatre group, Cardiff.