

Design Methods to Investigate User Experiences of Artificial Intelligence

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How might Artificial Intelligence support a more meaningful choreography between explicit and implicit interactions?

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choreography between explicit and implicit interactions?

Ju, W. and Leifer, L. 2008. The Design of Implicit Interactions: Making Interactive Systems Less Obnoxious. *Design Issues* 24(3): 72–84.

Exploring how implicit systems driven by Artificial Intelligence
might work through Research through Design

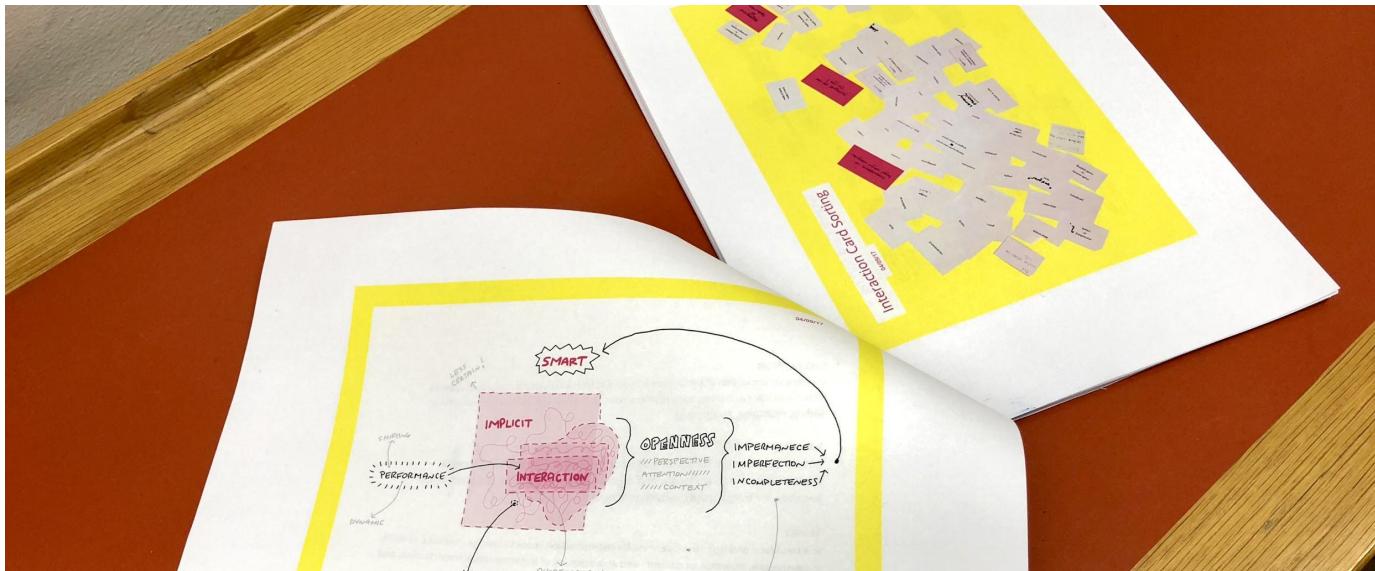
Exploring how implicit systems driven by Artificial Intelligence
might work through Research through Design

Zimmerman, J.; Forlizzi, J.; and Evenson, S. 2007. Research Through Design as a Method for Interaction Design Research in HCI Design Research in HCI. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, 493–502.

1. Surveying and challenging existing user interactions with ubiquitous and smart technology to expose design opportunities.
2. Understanding Machine Learning as an actual limited part of systems that can be approached and shaped by designers and users.
3. Unpacking the social implications of implicit interactions across information, interfaces, and infrastructures.

1. A Design Workbook on Implicit Interaction

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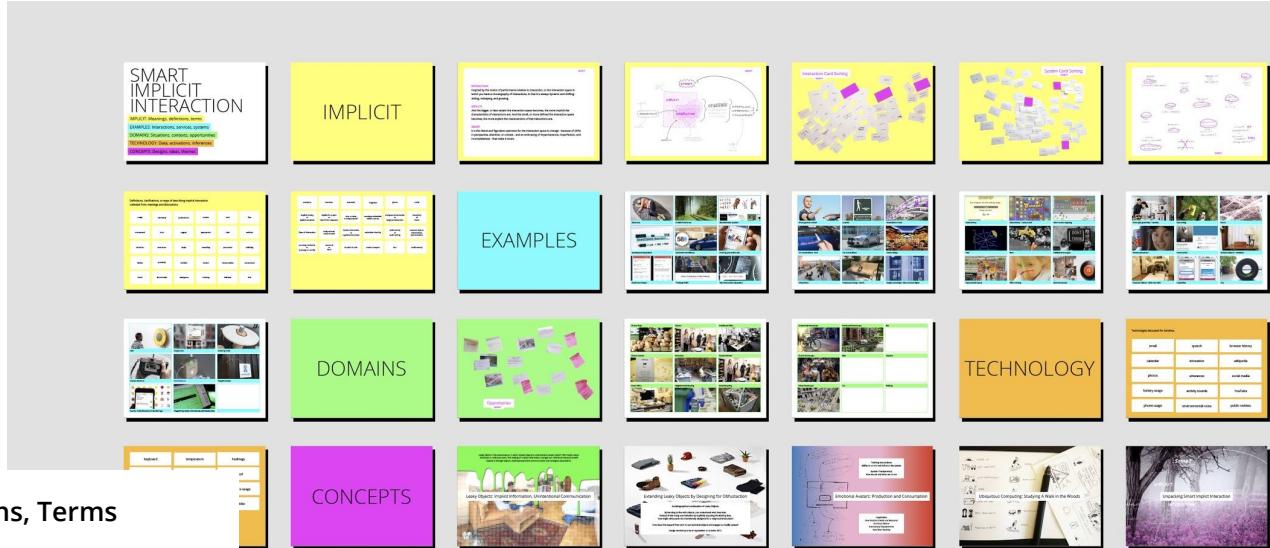
Gaver, W. 2011. Making Spaces: How Design Workbooks Work.

In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, 1551–60.

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1. A Design Workbook on Implicit Interaction



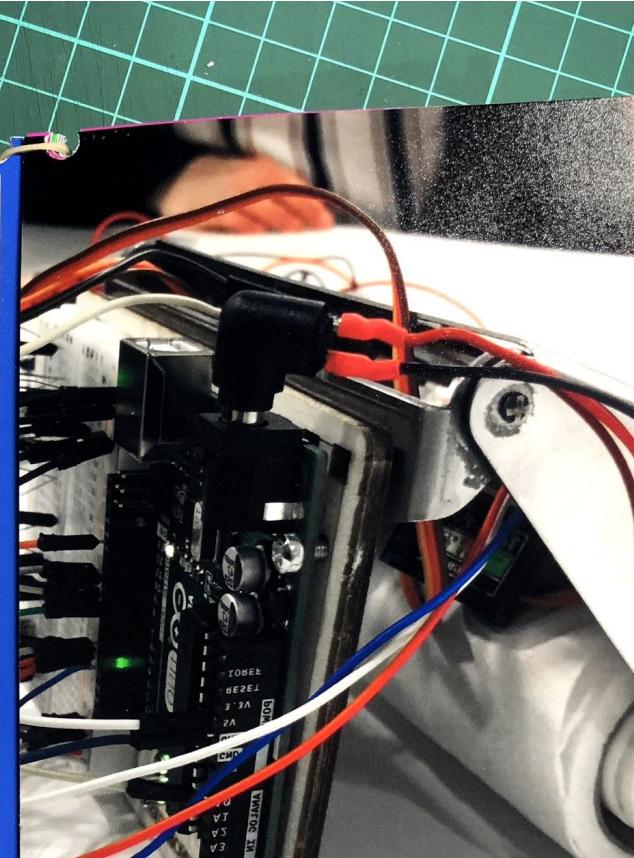
1. Implicit: Meanings, Definitions, Terms
2. Examples: Interactions, Services, Systems
3. Domains: Situations, Contexts, Opportunities
4. Technology: Data, Activations, Inferences
5. Concepts: Projects, Abstracts, Briefs

1. A Design Workbook on Implicit Interaction

Designing and Prototyping a Pee-ometer to Investigate Training in Machine Learning

Machine Learning is increasingly prevalent in everyday interactions with technology, affording personalization and prediction in the design of user experiences. This ability contributes to ongoing discussions of Machine Learning as a design material, in particular to the explicit and implicit training of system decisions. This project investigates interactions to initiate, influence, and correct machine learning while reflecting upon the user experience of engaging in machine training. How could and should we enable users to train and re-train Machine Learning algorithms? And how might user training of algorithms in turn intentionally or unintentionally train users?

This project explores these questions through the design and prototyping of a pee-ometer, a connected wearable that predicts when a user has to pee based on body movements.



1. A Design Workbook on Implicit Interaction

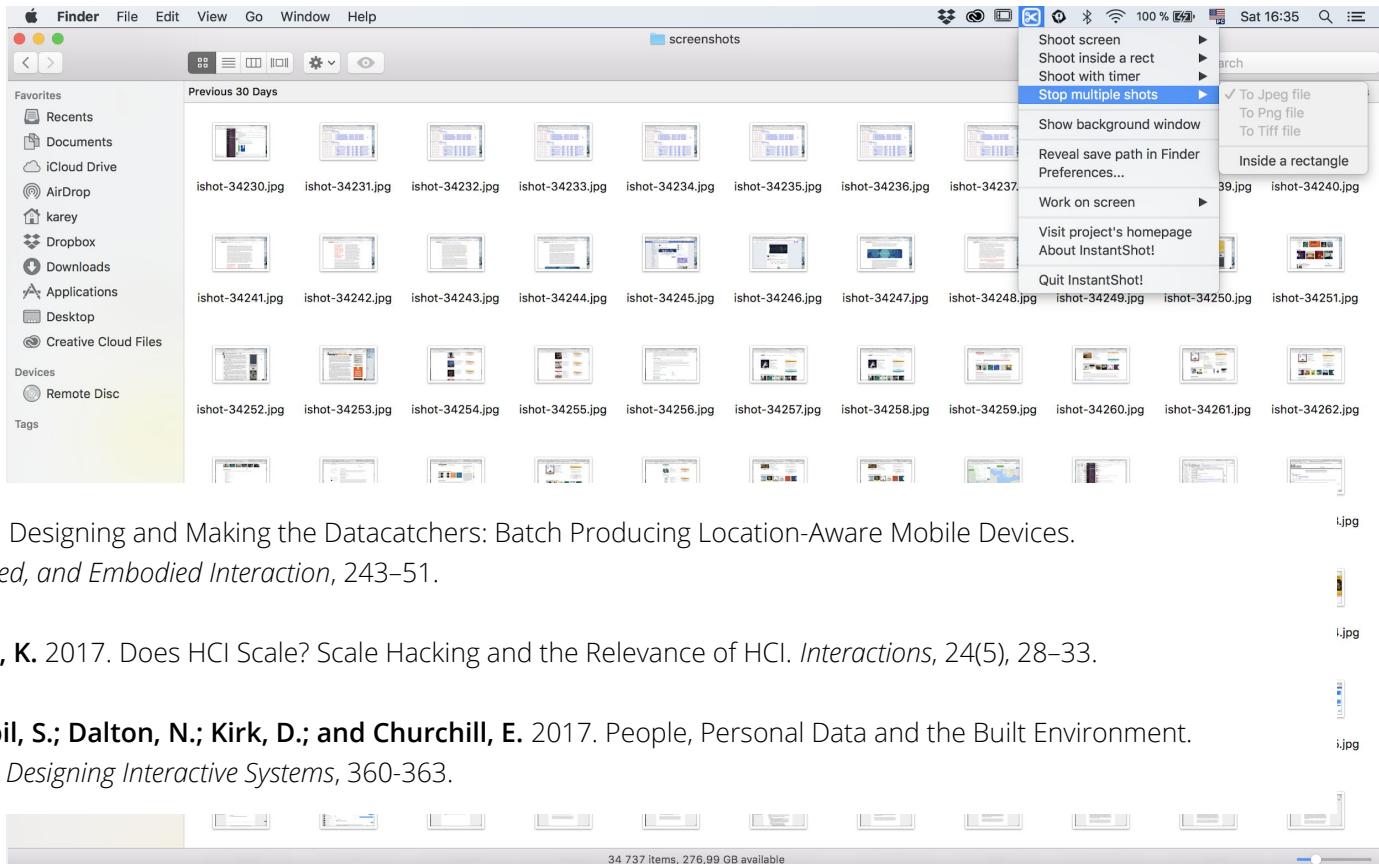


1. A Design Workbook on Implicit Interaction



2. A Workshop on Designing with Data

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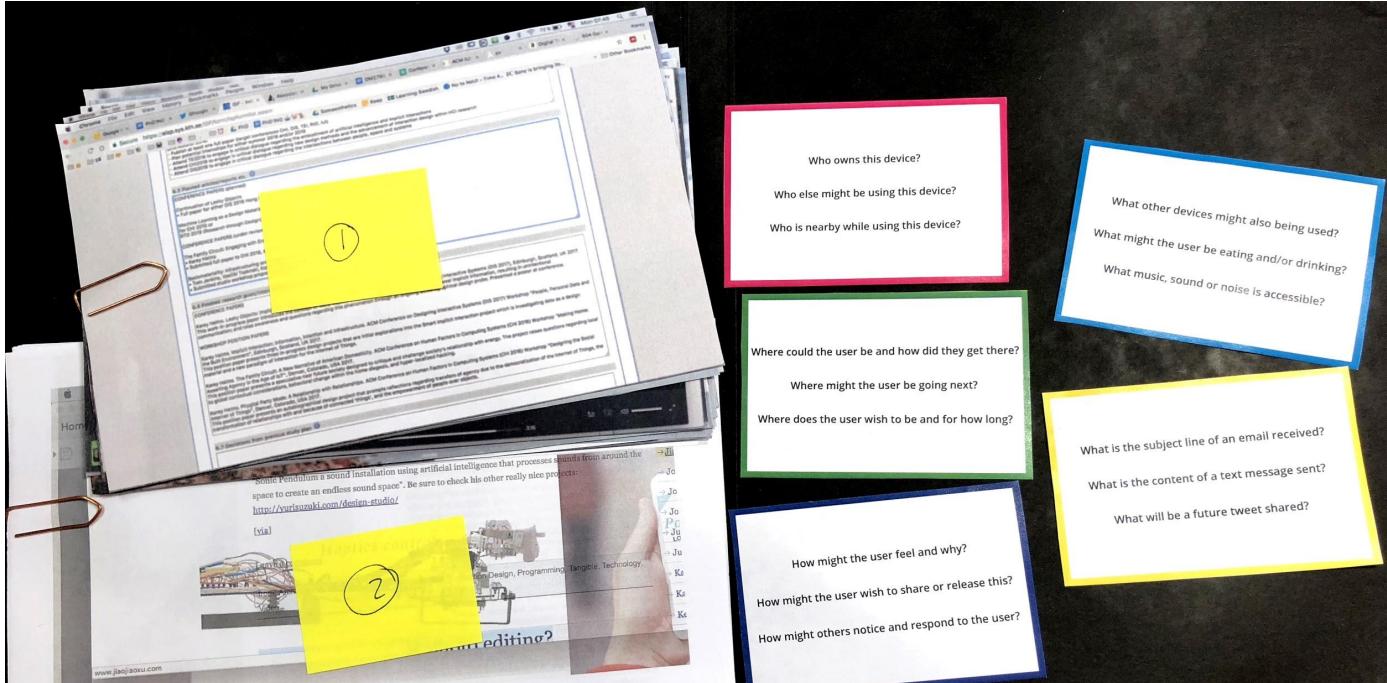


Boucher, A. and Gaver, W. 2017. Designing and Making the Datacatchers: Batch Producing Location-Aware Mobile Devices. In *Proceedings of Tangible, Embedded, and Embodied Interaction*, 243–51.

Brown, B.; Bødker, S.; and Höök, K. 2017. Does HCI Scale? Scale Hacking and the Relevance of HCI. *Interactions*, 24(5), 28–33.

Schnädelback, H.; Jäger, N.; Nabil, S.; Dalton, N.; Kirk, D.; and Churchill, E. 2017. People, Personal Data and the Built Environment. In *Proceedings of the Conference on Designing Interactive Systems*, 360–363.

2. A Workshop on Designing with Data



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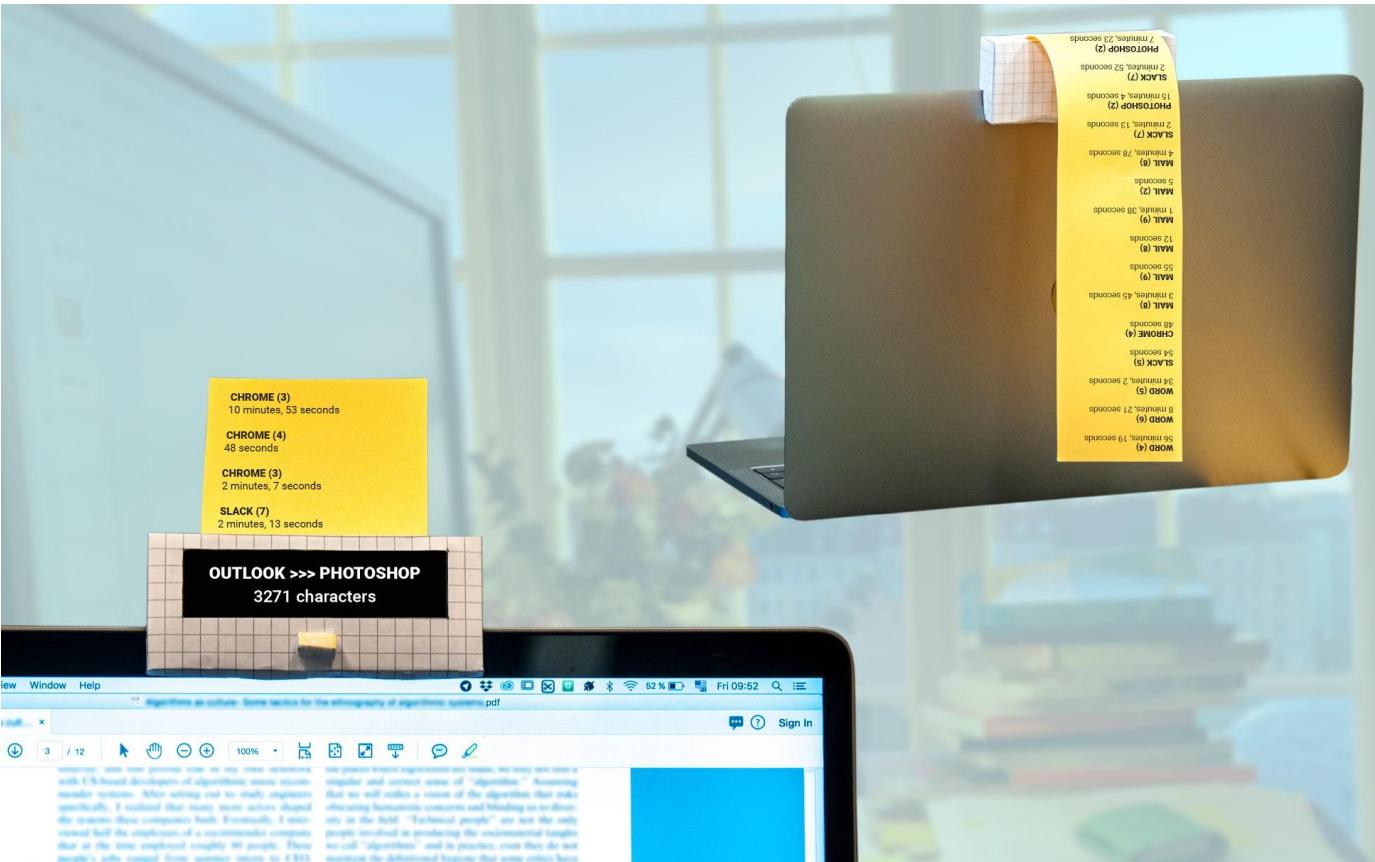
In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, 2447–56.

2. A Workshop on Designing with Data

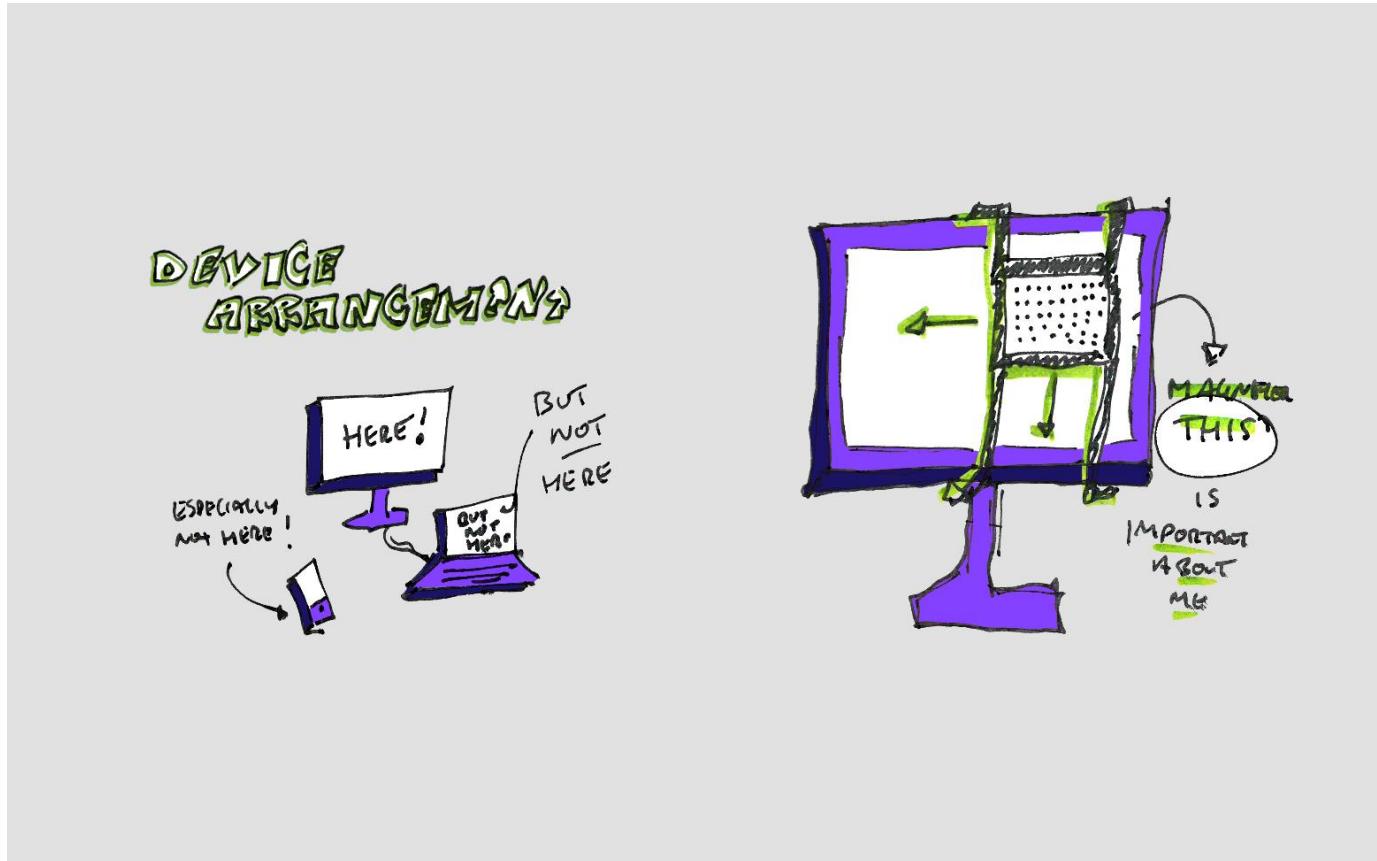


- Activity and inactivity hierarchies
- Behavioral adjustments in response to data tracking
- Social traces of data sharing
- Pacing of online rhythms and routines

2. A Workshop on Designing with Data

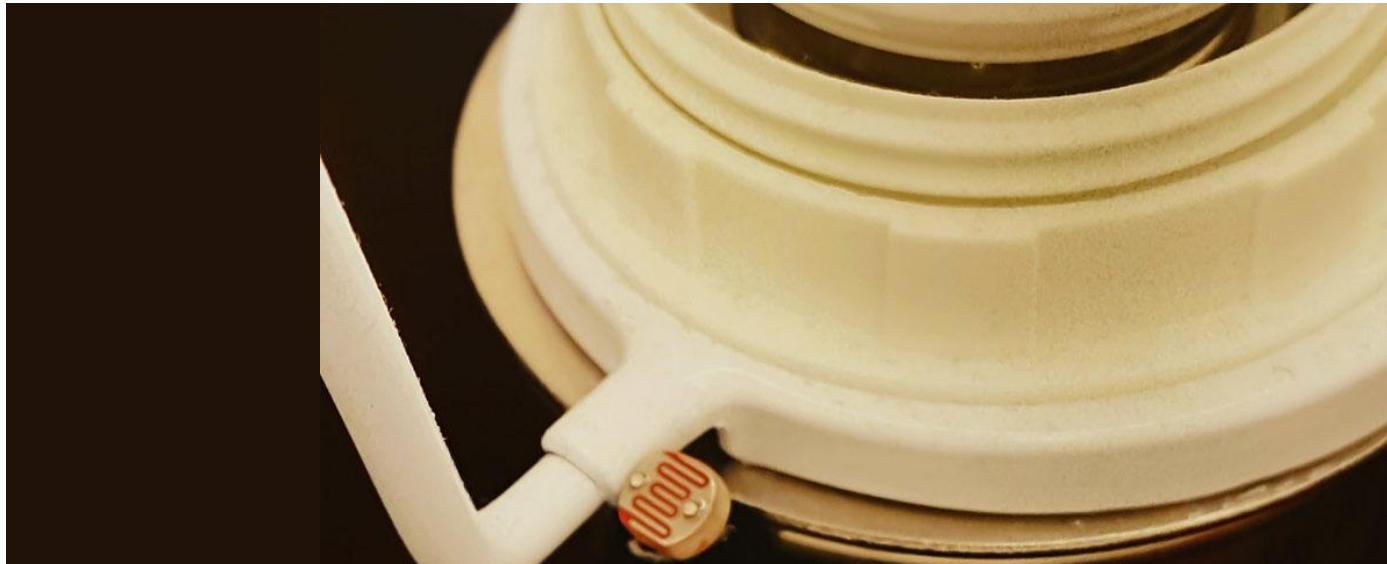


2. A Workshop on Designing with Data



3. A Prototype on Asymmetrical Interactions

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Davoli, L. and Redström, J. 2014. Materializing Infrastructures for Participatory Hacking.

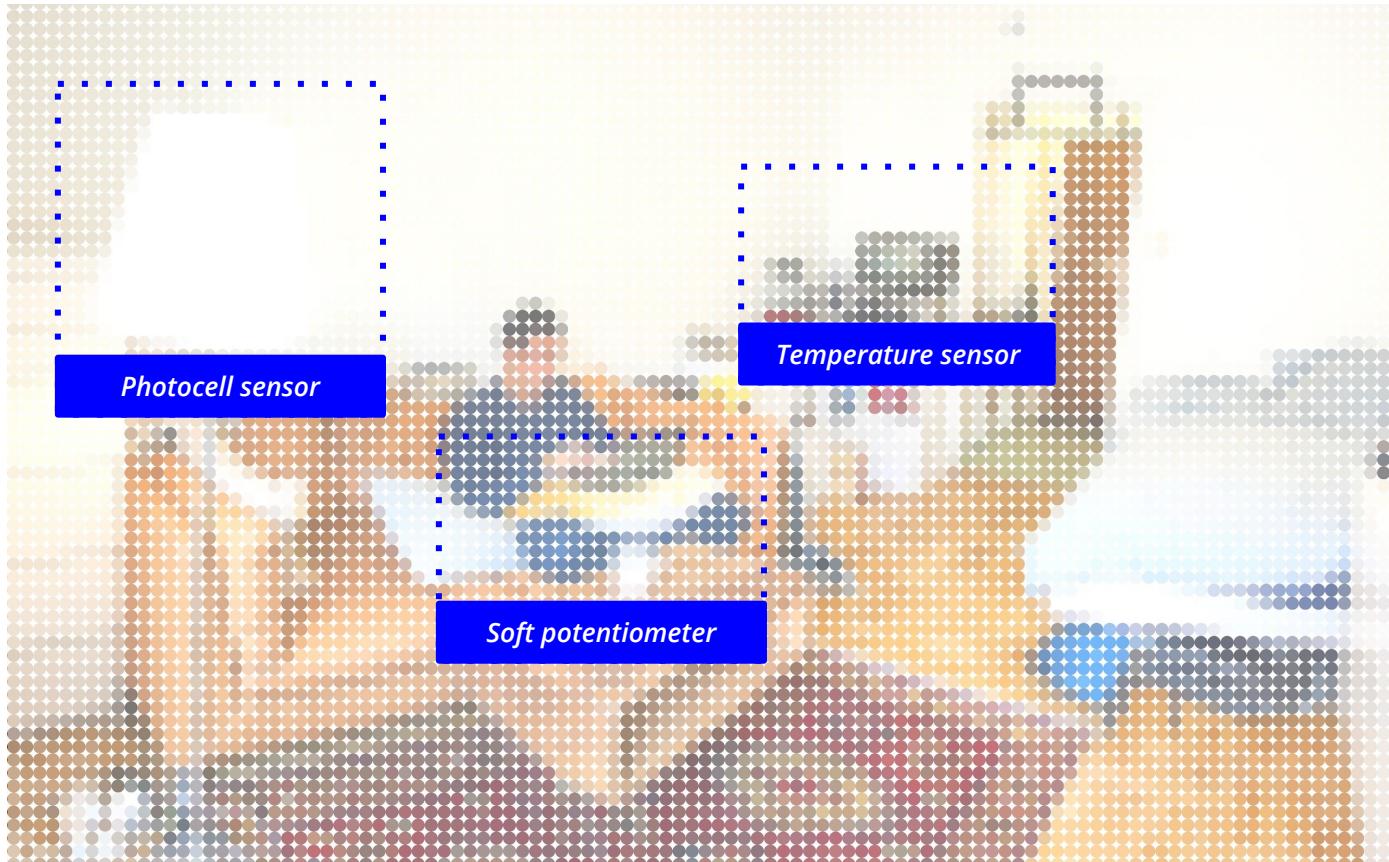
In *Proceedings of the Conference on Designing Interactive Systems*, 121–30.

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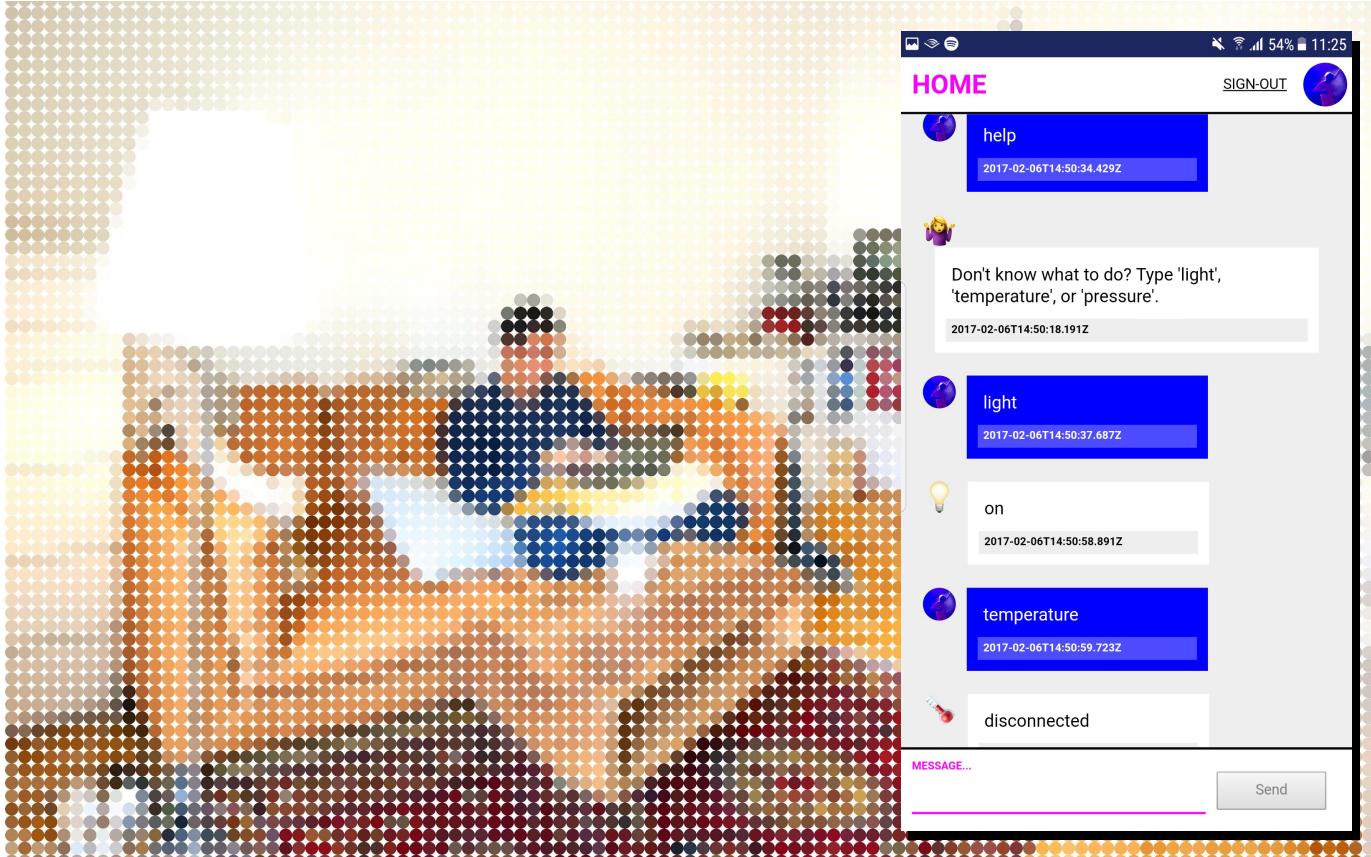


Helms, K. 2017. Leaky Objects: Implicit Information, Unintentional Communication.
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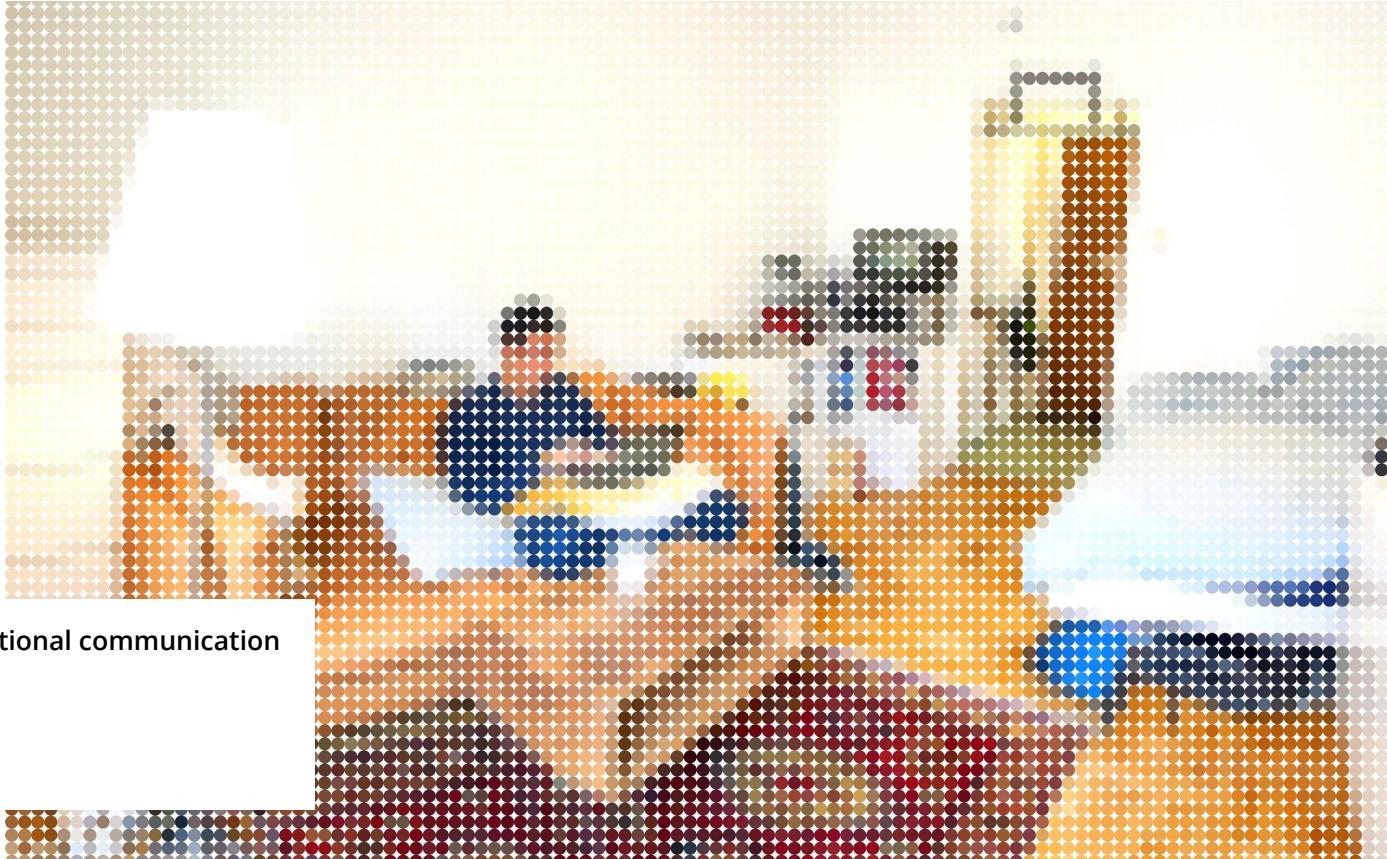
3. A Prototype on Asymmetrical Interactions



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3. A Prototype on Asymmetrical Interactions



- Implicit information, unintentional communication
- Strategies of obfuscation
- Appropriation and hacking

1. A design workbook to map varied definitions of implicit interaction and conceptual approaches to Artificial Intelligence
2. A workshop to explore how data might be approached and shaped by designers and users to inform Artificial Intelligence
3. A prototype to surface social implications of data-driven interactions and potential strategies amid concerns for agency and privacy