

Interaction in the Public: Aesthetics, Social Acceptability, and Social Context

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ABSTRACT

Even in moments considered private, others often witness how we interact with technology. A typical example is smartphone use at home, in the presence of family members. This of course becomes even more likely in public - on streets, in libraries, or in the supermarket, places full of other people. The social context brings challenges and opportunities. When designing interaction, we often primarily focus on what users experience, like, and accept. Less do we explicitly consider what present others may think or feel about this interaction, and how it relates to their own current activities. This requires a deeper understanding of social context and frugal but sufficiently rich context descriptions. In turn, considering present others allows us to learn about what types of interaction are acceptable or even aesthetic in what types of context. In this workshop, we collaboratively explored the largely untouched questions of positive interaction from the perspective of others, and worked out ways in which these could improve the design process.

CCS CONCEPTS

• **Human-centered computing** → **HCI theory, concepts and models.**

KEYWORDS

social context, social acceptability, interaction, aesthetics of interaction

1 MOTIVATION

Not only physical, but especially social context shapes the way people experience and interact with technology. For example, imagine

receiving a phone call. Certainly, libraries are not the most appropriate setting for an extended call with a dear friend, since it would likely disturb other people's reading. A tram may already be less problematic. While some may be annoyed, other passengers may enjoy eavesdropping into private conversations once in a while (e.g., [6]). Finally, being alone in a car seems like a situation that is ideal for a phone call. When contrasting these three settings, we can see that a similar occasion to interact may play out quite differently - from an at best hushed "call you later", to a public performance, and finally a largely unimpeded conversation. These are differences in what feels right to the users, which emerge from differences in social context.

However, even this example primarily takes the perspective of the interactant. In this sense, a number of features of technology already support adaptation to different contexts, such as silent ringing, headsets, and many more. Technology is designed to be adapted to context based on what the users themselves imagine to be appropriate. Less is known about how others perceive and experience the interactions they happen to witness. While Human-Computer Interaction and Interaction Design (HCI&ID) may acknowledge the shaping role of social context, notions of experience, aesthetics, and acceptability are traditionally designed from the user's - not the observer's - perspective. This underplays several important aspects of interaction, such as the performative character of interaction *per se*, people's need to manage impression, and of course the many ways single interactions can hinder and facilitate each other [9]. As a consequence, HCI&ID should explicitly consider social context and the way others may experience an interaction already when designing technology.

Unfortunately, in HCI&ID social context is often seen primarily as a hurdle for technology transfer from the lab to the real world - and not so much as a resource for design. Accordingly, the social acceptability literature (e.g., [4, 8]) concerns itself with the question of "How can we create things that people actually use in the real world, without, for example, feeling ashamed?" The predominant approach, however, is to basically remove the interaction from the public by integrating it in inconspicuous accessories, or else by developing especially hidden or subtle forms of interaction [4, 7].

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In this light, we believe that a more outgoing approach, which embraces the social as a resource, opens up a wider design space. While more expressive forms of interaction may cause friction in many social contexts, they can also be a necessary and desirable ingredient in the design of acceptable and aesthetic interactions with technology. Key to this is a reliable and generative, yet manageable concept of social context and a broader understanding of how different types of interaction (e.g., secretive, expressive) shape positivity in different situations. This also includes a meaningful understanding of different “categories” of others being present (e.g., passer-by, onlooker, or expectant).

2 WORKSHOP CONTRIBUTIONS

We accepted four participant contributions (here in alphabetical order).

Fatemeh Alizadeh and **Dominik Pins** discussed the role of voice assistants (VAs) in semi-public and public contexts. Unlike cameras, which are usually hard to miss, voice assistants are not always easily noticed when we are visiting friends or relatives, although they permanently record our voices. The important question is what the design has to offer for such situations so that the privacy rights and concerns of visitors are not inadvertently ignored. A simple solution could be for VAs to generate a signal to inform the user of their presence. However, such a signal could also give the impression of insecurity or lack of control by the device owner. We should also consider that the first impression VAs make on visitors may play an important role in their willingness to own such a device themselves. The presentation also covered potential solutions and opportunities for VAs to engage visitors in an interaction without causing discomfort by simply alerting them to their presence.

Jenny Berkholz talked about taste in User Experience Design. In the HCI community, a satisfying user experience is described as something that fulfills psychological needs [2]. But we are still missing an explanation of how users gain their “taste” for different apps. In a Bourdieu’an [1] sense, this phenomenon can be explained because of the users different cultural capital and their position in the social field, which is expressed through taste preferences. While the taste paradigm is nearly “hegemonic” [3] in sociology, it is less common to look at technological changes through this lens in the HCI community. In addition, the preference for cultural goods such as music emerges equally to UX needs. In this sense, UX is transformable and socio-culturally shaped. Of course, UX can still be seen as something that has to satisfy user needs, but advocates a focus on humans as socialized subjects [5] and a more holistic perspective on the explanation of how users gain their user experiences.

Annika Sabrina Schulz presented her work on interactive surfaces in smart homes. More and more everyday objects offer digital capabilities and connections to other devices or the world wide web, providing interfaces to virtual worlds. Especially smartphones have evolved to ubiquitous devices that are seeking the attention of users regularly and in any situation. The social phenomenon “phubbing”, which includes the interaction with smartphones in presence of other people, is disturbing social settings enormously and affects face-to-face communication negatively. Speech interfaces share

this consequence since interaction with them during social settings requires disruptions in conversations. Both smartphone applications and speech interfaces are the predominant interfaces in smart homes, in which a lot of social settings take place including for example family life situations, communication of couples, flat mates, visitors, and friends. Accordingly, humans in smart homes are confronted with the challenge to interact with residential technology that does not disrupt interactions between physically present humans. Following the demand of seamlessly integrated interfaces and personalization, her research group proposes tangible interaction in form of manipulating existing analog personal objects on designated interactive surfaces as alternative interfaces for more agreeable home technology use in social situations.

Sandra Maria Seidl presented insights about the use of exoskeletons in social contexts at work. As technologically sophisticated structures that surround the human body, industrial exoskeletons primarily intend to protect the user’s physical health in the workplace. Although the design can vary, exoskeletons are usually quite visible on the wearer’s body. For that reason, their simple presence is likely to provoke social reactions from, for example, colleagues or customers. These social reactions may shape the experience and normative beliefs of the wearers of exoskeletons that in turn can affect behavioral intentions to use. Building on evidence that technology design can alter attributions ascribed to its users, she discussed perceptions of aesthetics and dehumanization in the light of current exoskeleton research and focused on the role of the social context regarding the acceptance and actual use of exoskeletons at work.

3 ORGANIZERS

Alarith Uhde is a doctoral student in the Ubiquitous Design / Experience & Interaction group of Prof. Marc Hassenzahl at Siegen University. His research interests include technology experiences in social contexts, technology-mediated social cooperation, and well-being-oriented design.

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Pia von Terzi is a doctoral student in Economic and Organizational Psychology in the research group of Prof. Sarah Diefenbach at LMU Munich. Her research interests include the role of social context in Human-Computer Interaction, and technology experiences in public space.

Marion Koelle is a post-doctoral researcher in Human-Computer Interaction at Saarland University. She completed her PhD on ‘Designing Socially Acceptable Body-worn Cameras’ in 2019. More recently, she expanded her research focus towards the design and fabrication of on-skin interfaces and their wearability in diverse social contexts.

Sarah Diefenbach is professor for market and consumer psychology at the LMU Munich with a focus on the field of interactive technology. Her research group explores design factors and relevant psychological mechanisms in the context of technology usage in different fields, e.g., social media, digital collaboration, companion technologies, social robots...

Marc Hassenzahl is Professor for Ubiquitous Design / Experience & Interaction at Siegen University. With his group of designers and psychologists, he explores the theory and practice of designing pleasurable, meaningful, and transforming interactive technologies.

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REFERENCES

- [1] Pierre Bourdieu. 1984. *Distinction: A social critique of the judgement of taste*. Harvard University Press, Cambridge, MA, USA.
- [2] Marc Hassenzahl, Annika Wiklund-Engblom, Anette Bengs, Susanne Hägglund, and Sarah Diefenbach. 2015. Experience-oriented and Product-oriented Evaluation: Psychological Need Fulfillment, Positive Affect, and Product Perception. *International Journal of Human-Computer Interaction* 31, 8 (2015), 530–544. <https://doi.org/10.1080/10447318.2015.1064664>
- [3] Antoine Hennion. 2007. Those Things That Hold Us Together: Taste and Sociology. *Cultural Sociology* 1, 1 (2007), 97–114. <https://doi.org/10.1177/1749975507073923>
- [4] Marion Koelle, Swamy Ananthanarayan, and Susanne Boll. 2020. Social Acceptability in HCI: A Survey of Methods, Measures, and Design Strategies. In *Proceedings of the ACM 2020 CHI Conference on Human Factors in Computing Systems*. ACM, New York, NY, USA, 1–19. <https://doi.org/10.1145/3313831.3376162>
- [5] George Herbert Mead. 1934. *Mind, Self and Society*. University of Chicago Press, Chicago, IL, USA.
- [6] Andrew Monk, Jenni Carroll, Sarah Parker, and Mark Blythe. 2004. Why are Mobile Phones Annoying? *Behaviour & Information Technology* 23, 1 (2004), 33–41. <https://doi.org/10.1080/01449290310001638496>
- [7] Stuart Reeves, Steve Benford, Claire O’Malley, and Mike Fraser. 2005. Designing the Spectator Experience. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems - CHI’05*. ACM, New York, NY, USA, 741–750. <https://doi.org/10.1145/1054972.1055074>
- [8] Julie Rico and Stephen Brewster. 2010. Usable Gestures for Mobile Interfaces: Evaluating Social Acceptability. In *Proceedings of the ACM 2010 CHI Conference on Human Factors in Computing Systems*. ACM, New York, NY, USA, 887–896. <https://doi.org/10.1145/1753326.1753458>
- [9] Alarith Uhde and Marc Hassenzahl. 2021. Towards a Better Understanding of Social Acceptability. In *Proceedings of the ACM CHI Conference on Human Factors in Computing Systems Extended Abstracts*. ACM, New York, NY, USA, 6. <https://doi.org/10.1145/3411763.3451649>