Emotional Value Landscape – A new tool to bridge emotional user experiences and value-based technology assessment

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Researchers and practitioners in the fields of User Experience research (UX) have developed profound knowledge on the human perception of technology. With a typical focus on the artifact's attributes [5] or its affordances [4], common approaches focus on the *immediate* interaction with a technology. Where emotions entered the field, UX scholars typically measured emotional responses with simple affect scales [9]. Such scales, however, do not study emotions beyond positive or negative affect. They do not capture the nuances of meaning underlying these emotions in shaping the long-term impressions users gain from interaction.

Stepping into this void, scholars promoting the consideration of values in IT design take a broader perspective. They argue that technology implicates human values, with effects on individuals and societies [6]. Striving for ethical technology development, the value-based tech-community has advanced meaningful approaches to consider value potentials in technology by design [8]. In this field, emotional responses are key. They are understood as users' reactions to the values involved in technology [1]. Consequently, emotions help to identify how technology implicates "what is important to people in their lives" [1, p.24]. Material Value Ethics [3, 7] links values with emotions, emphasizing that emotions are intuitive responses to the value-ladenness of objects. Empirical attempts to identify actual value-realizations of technology have remained rare, particularly when approached through the lense of emotional responses.

Against this background, we developed a methodological approach that captures users' perceived value implications and emotional responses. The *Emotional Value Landscape* (EVL) is a tool for the analysis of meaning, unfolding through human-computer interaction. It captures a broad spectrum of values and their nuanced emotional carriers, both of which become effective when people interact and live with technology over longer periods of time. Based on qualitative analysis of verbal user accounts, the EVL illustrates value implications in different areas of users' lives and considers finer emotional responses than prior research has. Our first in-depth EVL study focused on Conversational Agents (CAs) [2]. One important finding was that CAs elicit positive responses when they strengthen users' activity, independence and sense of community. Technology can then reach beyond hedonic pleasure and create lasting, ethically desirable impacts. Also value harms elicit unique emotional reactions. Fear and concern prevail when users consider harms of their privacy or autonomy, whereas typical usability issues raise anger and frustration.

The EVL is applicable to different technological artifacts, user groups and contexts. It is flexible to include collections of human values from various disciplines and to represent different levels of granularity for both human values and emotional responses. The EVL represents a human-centric approach to UX and a reusable methodology to bridge the investigation of user experiences and that of technological value implications. At the is4si summit, we present how the tool works and outline its philosophical underpinnings. We would like to discuss how the EVL is able to capture the inherent meaning of technology use.

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