
Methods to Account for Values in Human-Centered Computing

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Abstract

This workshop brings together scholars and practitioners of human-centered computing, requirements engineering, ethics and related fields. We will share knowledge and insights on methods to account for human values in information technology design. Through short presentations, group discussions and practical design group work, participants will collaborate on developing methodological frameworks for values in human-centered computing, and putting these methods into practice.

Author Keywords

design methods; human centered design; human values; values at play; value sensitive design; applied ethics; research-practice gap

ACM Classification Keywords

H.5.m [Information interfaces and presentation (e.g., HCI)]: Miscellaneous; K.4.1 [Computers and Society]: Public Policy Issues — Ethics

Introduction

As information technology becomes more deeply intertwined with peoples everyday lives, its impact on what they value in life grows. Individualistic values such as trust, privacy, ownership and autonomy, as well as more collectivist values such as co-creation, community and

solidarity are supported, hindered and even redefined by a wide range technologies such as social networks, persuasive technologies, and health care technologies. Particular technologies also may support different, sometimes competing values. For example, by excluding certain sites from search results in favor of others, search engines make search more efficient. However, search engines may also promote the negative value of bias by giving prominence to some sites or types of sites at the expense of others [4]. Moreover, different individuals or groups (including designers and stakeholders, [8]) may prioritize their values differently, or hold different and perhaps conflicting values. For example, some might value privacy over transparency in certain situations, whereas for others transparency should take precedence. Design methods play a fundamental role in shaping the dynamic interplay of technology and values, by suggesting steps designers should take in building new technologies [2]. Many designers and philosophers argue that because of the growing recognition of these trends, it is no longer sufficient to design systems merely accounting for user experience [1, 7]. Accounting for values should form a primary focal point of design methods.

Various design methods in human computer interaction (HCI), requirements engineering (RE) and related fields are finding ways to deal with value-related issues, terming them soft issues, social issues, and people issues [6, 3]. At the same time, the design turn in ethics has led to recognition of the design of technology as a key force in shaping peoples lives (e.g., [5]). We believe that these approaches in HCI, related disciplines and applied ethics complement each other in useful ways. Despite this useful redundancy, there are significant methodological challenges that both designers and researchers face when designing for values and collaborating with colleagues in

related fields. A primary issue is knowing which methods are available. While online resources (such as <http://vsdesign.org> and <http://valuesindesign.org>) are helpful, these sites are not exhaustive nor do they provide guidelines on selecting and applying methods judiciously, easily, and comprehensively.

Another significant challenge lies in transferring values focused methods between research and industry. Much of the information technology that people interact with in their everyday lives and that dynamically impacts their values is developed for commercial and consumer use. Therefore, it is important for methods to be practicable in an industrial setting, especially in view of the larger number of influential stakeholders (e.g., executives, owners, customers) and the indirect representation of their values, needs, and understandings through intermediary parties (e.g., managers). Academia, industry and government can mutually benefit from a constructive conversation in which values focused methods are transferred from academic, re-shaped for a very different constituency, and then shared back to academia with an expanded view of opportunities, limitations, and new methods. We may need to examine the impact of methods on context, and the impacts of context on methods.

Workshop Goals

The focus of the workshop is on collaboration and practical, hands-on experiences. Therefore, a major part of the workshop will consist of group work, in which participants from different backgrounds will collaborate on developing methodological frameworks for values in human-centered computing, and putting these methods into practice. Participants will work in groups to tackle a design challenge by applying values focused methods, and

will collect and present their results as well as their reflections on the process.

The workshop will encourage participation from researchers from fields including, among others, human-centered computing, requirements engineering, digital anthropology, participatory design, and applied ethics, as well as from practitioners working on user experience design (management) and related activities, and from representatives from government and NGOs working on legislation, standardization and similar issues.

The primary aims of the workshop are:

- to build bridges between information technology design and (ethical) reflection on technology, and between research and practice, by sharing experiences in using methods in human-centered design
- to catalogue available methods and real world examples or case studies of those methods being put to use and work towards constructing new methods for various phases of design
- to explore challenges in adopting and applying these methods in research and in practice and combining values focused methods with other design methods
- to discuss the grounds and formulate guidelines for applying these methods
- to build a cross-disciplinary collaborative community working on designing for values that will last beyond the workshop.

Workshop Topic

The overarching theme of this workshop is the

development of new and collaborative methods for designing human values into information technology. The workshop organizers will work with participants to decide the focus of the workshop on a subset of topics including: factors that structure the incorporation of values into the design process; the current state of the art in values focused design methods; opportunities for new methods and tools that help designers in the real world more effectively design for values; developing initial frameworks that guide the selection of methods; combining values focused design methods with other design methods; and challenges of designing for values in industry (such as temporal, logistical, financial, and legal constraints, as well as the mediated representation of certain stakeholders) and the implications these limitations have for the applicability of values focused design methods

Issues to be Addressed

- Methods for discovering and communicating values: which values are held in the design domain, which values will be impacted or explicitly supported by the design, and which stakeholder values impact the design? Participants will share experiences with value discovery techniques to identify best practices and shortcomings of existing techniques.
- Methods for dealing with emergent values and understanding how users and organizations adapt and re-purpose designs and technologies: dealing with contested normative questions that emerge after a technology has been put to use, and with the ways stakeholder values modify designed values, usage, and technology.
- Methods for engaging in trade-offs among values: values such as privacy and security can and frequently do conflict. Designers need ways to

engage collaboratively and constructively with users and other stakeholders (such as executives, elected officials, "the public," and lawmakers) in formulating trade-offs among different values.

- Methods for evaluation: once technology has been designed, it should be evaluated for how it supports, hinders, or embodies certain values on an evolving basis.
- Method selection: when is one method is more appropriate than another? Designers need guidance on the applicability of methods.
- Ease of use of methods: these should be easy to use by practitioners. Concepts used in and activities prescribed should be understandable, require low effort, complete, and agile.
- Method transfer between research and industry: there is a lack of clear techniques to design for values in a systematic way in industrial settings. Academia and industry can mutually benefit from finding ways of transferring methods between academia and industry.

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