

Disruptions, Dilemmas and Paradoxes: Ethical Matter(s) in Design Research

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This special issue on ethical matter(s) contains innovative and reflective scholarship focused on questions of ethics with human computer interaction (HCI) design research. Through this introductory piece, we articulate three trends influencing contemporary design research which are creating spaces of discomfort for many scholars as they acknowledge their positionality and responsibility. We introduce the articles developed for this special issue through the framing of ethical difficulties, dilemmas and paradoxes, recognizing that some issues may not be immediately resolvable. We argue that no matter which structures, principles or heuristics you commit to at the start of an HCI project, ethical conundrums are likely to develop. Through this piece, we are not suggesting that anyone is trying to achieve the status of moral saint within HCI design research. Rather, we offer you work crafted by scholars striving to improve their scholarship, working to address the question of ethical action in HCI research.

1. FROM ETHICAL PRODUCTS TO PROCESSES

Ethical inquiry has long been part of human computer interaction (HCI) design research. For decades, scholars have articulated the importance of investigating the ethical implications of designing interactive technologies (e.g. Friedman and Nissenbaum, 1996). For some, the ethical focus is on developing methods and approaches for identifying and applying values to products (for an analysis and critique of this approach, see JafariNaimi *et al.*, 2015). For others, it is the design research process itself that is the subject of ethical inquiry (e.g. the articles in this special issue). Whether focused on product or process, we assert that the need for discussions and conceptualizations of what constitutes ethical HCI design research continues. This special issue on ethical matter(s) is a contribution to this growing body of scholarship, keeping the dialog on ethics vibrant, self-reflective and generative.

After decades of inquiry why has not the field agreed on how to conduct research ethically? We posit that there are three trends influencing contemporary HCI design scholarship, contributing to the need for ongoing ethical deliberations. The first is the diversification of where and with whom HCI research takes place, with more fieldwork grounded in complex and sensitive settings, often involving vulnerable or marginalized communities through longer term engagements. Second is the growing prevalence of researchers recognizing and responding

to their own and their participants' positionality within these contexts. The third, a corollary to awareness of positionality, is the growing number of projects framed as situated, contextual, value-infused, enacted and social.

1.1. Diversification of the 'Field' in Fieldwork

HCI researchers have expanded their investigations far beyond the post-industrial workplace. In the HCI canon, we find examinations of digital mediation from contexts around the world. Examples from recent work highlight how researchers in these diverse settings encounter tensions difficult to predict or plan for (Davis and Waycott, 2015; Waycott *et al.*, 2015). This has been particularly prominent in research that takes place in sensitive contexts or engages with vulnerable and marginalized populations, such as people suffering from terminal illness (Ferguson *et al.*, 2014), sick children (Moncur, 2013), survivors of domestic violence (Clarke *et al.*, 2013), people who are grieving (Massimi, 2013) or caring for refugees (Talhouk *et al.*, 2016) and people with severe mental health problems (Lindsay *et al.*, 2012; Thieme *et al.*, 2016; Wallace *et al.*, 2012). This work often involves the formation of close relationships with participants and communities for gaining more holistic and empathic understandings

(McCarthy and Wright, 2015), or engaging in more collaborative co-design processes (Branham *et al.*, 2014).

1.2. Positionality

Harrison *et al.* (2011) identified a trend within HCI scholarship that they described as evidence of a ‘third paradigm’, an orientation to research that ‘focused around an acknowledgment of the social, cultural, and physical situatedness of both users and analysts’ (p.385). Five years later, the paradigm continues to evolve as HCI scholars explore methods for taking the positionality of researchers and participants into consideration throughout their projects (e.g. Neustaedter and Sengers, 2012; Rode 2011a, 2011b; Wright and McCarthy 2008). Yet these different methodological approaches (e.g. autoethnography, ethnomethodology, critical making, participatory research), informed by considerations of positionality, are still relatively novel. Through reviewing cycles and conference Q&A sessions, the HCI community continues to debate appropriate ways to acknowledge and work within the limitations of our positionality. In addition to developing and testing new methods, researchers whose projects acknowledge the positionality of both participants and researchers often face troubling questions about the affects and effects of their research that demand explicit and ongoing consideration.

Reflections on positionality have surfaced new facets of ethical responsibilities regarding, for example, sought outcomes of research engagements. For research involving particularly vulnerable participants, some argue for going beyond simply doing no harm to consideration of how the research may also benefit participants both in the short term and longer term (Marshall *et al.*, 2014; Munteanu *et al.*, 2015), critically examining how these benefits compare to those the researchers receive from the work (Brereton *et al.*, 2014; Brown *et al.*, 2016). Arguing for the potential social benefits to participants and to create opportunities for participants to receive more recognition for their contributions to design and research, Brown *et al.* (2016) promote involving them more equally as research partners (rather than as ‘human subjects’) and invite discussion on whether the preservation of anonymity of research participants in publications should become optional rather than a default that assumes the need to protect their privacy and integrity.

1.3. Situated, Contextual, Value-Infused, Enacted and Social

As the reach and implications of unsettling (Regan, 2011), decolonizing (Smith, 2012) and feminist approaches (Bardzell 2010; Bardzell and Bardzell, 2011; Rode 2011a) extend into HCI scholarship, we observe that design research is more collaborative, situated and explicitly value-active than ever. The contributors to this special issue articulate how they faced puzzling

relational spaces that they experienced as distinct from everyday relationships and previously unquestioned researcher–researched relationships. Researchers and participants co-construct designs, co-construct meaning, form and re-form relationships (i.e. Clarke *et al.*, 2016). Through the pieces selected for this special issue, researchers are reflecting on the implications of their work as they persuade, console, support and/or interpret for participants as participants likewise affect researchers. As part of these intimate engagements with participants, HCI researchers frequently place themselves in situations where their professional roles are challenged and identities are blurred (Branham *et al.*, 2014; Waycott *et al.*, 2015). Approaches to respond appropriately to participants’ individual needs, for instance by comforting them, may be regarded as in conflict with keeping a professional distance and can create perceptions of the researcher as a care giver, therapist or friend (cf. Ferguson *et al.*, 2016 this issue). This can invite scenarios in which participants may disclose information that has not been anticipated in advance or covered by any formal ethics procedures, yet require responsible action (e.g. legal dilemmas, self-harm disclosures) or that occur outside of what were originally considered ‘research settings’, during spontaneous encounters while participating in communal life (Nathan, 2012). This raises additional questions as to whether information shared during such encounters can be used as research data, for example in healthcare fieldwork (Furniss *et al.*, 2014), or whether it would be unethical to ignore potentially insightful information (Munteanu *et al.*, 2014; Munteanu *et al.*, 2015). Working in such settings often requires a certain flexibility as to how researchers spend time with participants and in the research methods they apply, to respond appropriately to participants’ individual needs and the demands of the data collection context, which Munteanu *et al.* (2015) refer to as ‘situational ethics’.

1.4. Weaving the Trends Together

Influenced by the trends discussed above, many HCI projects develop a rich, shifting tapestry of relationships that in turn can develop into problematic situations not well covered by institutionalized, top-down research procedures. The limitations of formal processes for governing the conduct of human research are well recognized whether they are from Institutional Review Boards (e.g. USA), National Health Services (e.g. UK), professional organizations’ codes of ethics (e.g. ACM Code of Ethics) or Research Ethics Boards (e.g. Canada). Although researchers may be asked to outline and address the potential risks of proposed research for participants, this exercise becomes increasingly complicated in contexts when researchers encounter emergent tensions that are difficult to foresee.

Moreover, working in sensitive research contexts can be emotionally challenging for researchers, who often find themselves unprepared for this kind of work and would benefit from having support mechanisms in place to cope with

emotionally draining engagements and maintain their own well-being (Moncur, 2013). However, the formal processes currently in place are predominantly set up for protecting participants, not researchers. We argue that HCI researchers working in increasingly diverse situations, need guidance and support. This special issue is a step to address that need, continuing and extending the body of ethically grounded reflections on the implications of HCI design research on the researchers, those they work with, the products, the processes and on the HCI knowledge enterprise.

1.5. Disparate Positionality, Shared Interest

As four HCI design scholars living in three different countries, following unique career paths and working with distinctly different communities, we share an interest in the difficulties that arise as HCI researchers work in more diverse settings, acknowledge issues of positionality, and question the influence of relationship dynamics on the research process. We are in dialog with colleagues who also express interest in developing platforms to collectively share experiences of grappling with ethical issues, to discuss and resolve identified challenges, to revisit existing research guidelines and to develop examples of resilient and reflective practice. This desire is also apparent from the descriptions of recent workshops and panels that were held or will be held at upcoming international HCI conferences at CSCW, OzCHI, Aarhus and CHI that centered, among others, on topics of: values in HCI education (Koepler *et al.*, 2014); multi-lifespan research (Friedman *et al.*, 2015), and ethical issues in design with vulnerable participant groups and in sensitive research settings (Branham *et al.*, 2014; Davis and Waycott, 2015; Thieme *et al.*, 2014; Waycott *et al.*, 2015; Waycott *et al.*, 2016). Ethical issues are also discussed in relation to research investigating the power of algorithms to manipulate and predict human action (Lustig *et al.*, 2016); on online social research (Bos *et al.*, 2009; Bruckman *et al.*, 2010) and big data (Fiesler *et al.*, 2015). As another type of example, we note that Facebook itself has become a platform for inviting discussion of this topic. Amy Bruckman created a closed group on Facebook called ‘ACM SIGCHI Research Ethics’ whose members can discuss research ethical issues related to HCI research. The group gathered almost 200 members within the first 4 weeks of its existence, yet leaves those who choose to avoid Facebook (ironically often for ethical reasons) out of the conversation.

We invited submissions to this issue from design researchers willing to directly address the ethical trials (e.g. power, ownership, trust, privacy) that arise when we appreciate how design research itself imposes power structures and influences values, affecting participants and researchers, designs and scholarship.

Specifically, we welcomed submissions of rigorous, generative and original articles that examined, but were not limited to, the following issues:

- How do design researchers assess and navigate often shifting power relationships between actors throughout the research process?
- What are the design researcher’s responsibilities concerning the impact of the research(er) on participants?
- How do design researchers experience and manage conflicting roles they may assume in the process of research that go beyond their professional expertise or established research goals (e.g. as someone who cares for a bereaving participant or who advocates for a participant’s political agenda)?
- What are the design researcher’s personal experiences during research, including effects on their emotional well-being? What are strategies for coping, especially when working in sensitive contexts (e.g. children with terminal illness, mental health and self-harm, genocide)?
- How can design researchers ensure that work is thorough, intregitous and honest, both in the conduct and write-up?
- How can design researchers foster a situated ethics that extends beyond the purview of self-protective institutional approval stipulations?
- What training or support might facilitate ethical practice of third paradigm research?
- What are the social, ethical considerations of the design researcher?
- What role does persuasion play in design research engagements? We received 26 extended abstracts and invited 13 of those to submit a full paper. Of those 13, 6 are included in this special issue. We note that it is neither particular technologies nor the information systems that the articles selected for this special issue address that are remarkable. Rather, what is significant is the researchers’ sensitivity toward the ethical implications of their work, and in turn, how these implications influence the integrity of their scholarship. For those who share our interest in ethical matter (s), the articles in this special issue provide insights into: boundaries and decision-making roles; deliberations on providing care for participants; and considerations of what happens to researcher–participant relationships when a project comes to an end. Furthermore, as design researchers become conversant in complex and dynamic power relationships with participants, these papers inspire the reader to consider ‘whose values, whose design?’ and ‘whose ethics, whose design research?’.

2. DISRUPTIONS, DILEMMAS & PARADOXES: ETHICALLY ATTUNED CASE STUDIES

Authors in this issue offer us their efforts to create a path through both anticipated and unanticipated moral quandaries that arose during their work. We introduce the articles below through a framing that emphasizes how many of the paths

described in the articles are neither straight nor well-worn, they diverge from accepted and expected practice. Through our own engagement with the articles, we found it generative to attempt to frame the tensions we identified in the articles as disruptions, dilemmas or paradoxes. We found these three framings generative for uncovering insights, as each framing, whether disruption, dilemma or paradox, brought different issues forward for reflection.

We suggest that each article represents a case study of ethical decision-making and action. Furthermore, we assert that formal accounts of ethical practices and guidelines provide another voice in the ethics conversation, but are never (and can never be) complete or 'correct'. New practices and regulations can have unintended consequences and some moral conflicts may be unresolvable. We are not suggesting that these authors represent new gold standards of researcher morality nor are they claiming to have discovered new ethical (T) raths. Rather, they articulate how they approached and what they learned from engaging in ethically responsive HCI design research at a particular point in the early 21st century. As you read, we ask that you push back, question, critique and perhaps develop insights to apply to your own practice.

2.1. Disruptions

Many of the projects within this special issue describe working through disruptions, instances when accepted norms for what constitutes 'ethically informed' research in HCI were limiting or prevented the researchers from engaging in ways that they experienced as ethical and effective. To overcome these disruptions, the authors below propose ways to broaden what counts as accepted ethical practice.

Knowles and Davis (2016, this issue) argue that the nature of some design problems necessitate departing from conventional ethical guidelines. They develop their argument by considering the challenge of designing for global sustainability. The authors critique current approaches to designing persuasive technologies (PT) that often target a person's individual choices and attempt to influence their personal consumption behaviors. In order to bring about meaningful, sustained improvements, they suggest that wicked problems such as climate change require societal-level changes. This can be achieved by shifting values and the normative practices surrounding consumption or through addressing the psychological barriers to greater political engagement. Ethical difficulties arise with regard to the design of PT interventions, with moral responsibility falling to designers for the means and outcomes of persuasion. In the authors' vision, this responsibility includes balancing user autonomy with system persuasion and identifying the boundary between persuasion and manipulation. The authors discuss what constitutes appropriate solutions in the context of promoting environmental sustainability, proposing the use of 'fear' as one potentially effective approach.

Knowles and Davis' thought-provoking suggestion to utilize people's 'fear' as a catalyst in the context of sustainability pushes the boundaries of what is considered 'ethically informed' HCI research. They encourage readers to reconsider dominant ethical guidelines and to transgress those previously held, as a way to work through a disruption that is limiting humanity's ability to address the catastrophic effects of climate change.

Shilton and Anderson (2016, this issue) address less obvious, but arguably more common ethical disruptions that can limit how questions of ethics are engaged in design research. The authors draw upon their experiences on particular projects to work through questions of *who* determines ethical responsibilities, *what* roles are needed on projects that aim to develop and conduct ethical research and *how* is ethical expertise in design determined? The authors suggest that assumptions about ethical qualifications or expertise can limit how projects engage with ethical considerations. They walk the reader through different scenarios and argue that ethical insights can arise from various actors in different forms; each actor's perspectives will have advantages and drawbacks. They describe working toward ethical action as an imperfect, messy process. The authors articulate the often unspoken tensions of 'who' is (or is not) qualified as an ethical expert.

It is likely that this article will be generative for future scholarly inquiries into the types of roles and responsibilities tied to ethics that exist within design teams, questions of positionality and privilege that arise from these roles, and how these disruptions regarding assigning responsibilities and determining expertise for conducting ethical research can be better acknowledged and supported throughout the research lifecycle.

2.2. Dilemmas

At times, there are complications that unsettle a project and team members are left unsure of appropriate next steps. Although the research team may not have a way to immediately resolve the issues that arise, they imagine solutions will likely exist in the near future. For example, they envision infrastructural changes or particular shifts to institutionalized practices. Although all of the contributions to this special issue address dilemmas to some extent, we call out two examples that are particularly illustrative of this framing.

Vines *et al.* (2016, this issue) offer readers reflections of their research deployment of an interactive technology to individuals suffering from Parkinson's disease. Parkinson's is a frightening degenerative disorder of the central nervous system. The authors make the candid point that ethical dilemmas abound in the course of realistic (as opposed to ideal) user research cycles. For instance, early versions of new tools are often buggy, early research publications may misinterpret findings that are more clearly understood as longitudinal work progresses, and researchers are unable to contain how their research is discussed in users' circles and by the media. Vines and colleagues argue that these types of problems are

to some degree infrastructural. Researchers have to meet certain publication metrics in order to keep their posts (i.e. publish or perish). The authors also offer visions of how the potential for harm arising from these dilemmas might be reduced, such as recommending that journal publishers encourage and support updates to published articles.

Vines *et al.* also address how increased conversation with the public about science concomitant with a declining public understanding of science can easily lead to misrepresentation of nascent scholarship. Here the authors recommend that researchers develop their capacity for engaging more directly with anticipated users of their designs instead of the larger public, along with more support for user-collaborative research projects.

Ferguson *et al.*'s (2016, this issue) paper engages with ethical dilemmas that the authors encountered while conducting design research in the sensitive context of a hospice, which presents a new area of research for HCI. Highlighting the lack of professional training for HCI researchers who lack experience working in medical healthcare settings, the paper contributes a framework to explore ethical dilemmas that evolved from a systematic analysis of professional Codes of Ethics. The analysis revealed seven comprehensible concepts (harm, justice, property, relationships, conflict, disclosure and education) for researchers to consider in their planning and conduct of the research to avoid harm or resolve potential ethical conflicts that they may encounter in their work. The authors exemplify ethical dilemmas that they had encountered in their research; describe how they responded to these *in situ* and offer important reflections on the difficulties surrounding, and appropriateness of, their responses.

Ferguson *et al.* describe challenges involved in building rapport with participants when discussing sensitive issues, and how this can stretch the boundaries of professional competency of the researcher if interactions become perceived as 'therapeutic'. They also discuss how harm can result from questions about data ownership or stewardship, and emphasize the need to carefully consider how research data are used during and after a study. The authors propose identifying ways in which interactions could bring value to participants through curation rather than the destruction of collected data.

2.3. Paradox

If you follow a few threads of complex, situated, inter-relational research, you soon reach particularly knotty areas or what we term herein paradoxes. These are points where problems do not have a singular 'right answer', nor do we have visions of what potential answers might look like. For our framing purposes, we refer to situations, people or things that hold contradictory qualities as paradoxes. Here we also acknowledge the limitations of researchers' positionality as we are always limited in our knowledge, and there is little point in striving to know the 'Big T' or (T)ruth.

The scholarship of Friedman *et al.* (2016, this issue) confronts the paradox of designing an information system today to address a societal dilemma that is unlikely to be solved for multiple generations, if at all. How does a design team aware of the limitations of its own positionality, make decisions that have positive long-term ethical impacts while working within contemporary constraints (e.g. technical, infrastructural, political, psychological, financial, socio-cultural)? The authors describe their multi-year project to develop an information system to provide access to interviews conducted with court personnel from the United Nations International Criminal Tribunal for Rwanda (ICTR). The design goal of the information system is to allow people from around the world to access, curate and reuse the reflections of individuals who were deeply involved in developing one of the first courts of international justice. The paper reveals paradoxes that arise when Western academics are designing for imagined and unknowable future global publics. Aware of these paradoxes, the authors frame the value considerations that they perceive as being held in conflict and describe pathways to managing, though not resolving, these tensions. Most of all, the scholarship highlights the need for more longer term, ethically reflective research projects in HCI.

Drawing upon an ethics of care perspective, Toombs *et al.* (2016, this issue) argue that the relationships that develop between researchers and participants during the course of a research project often include participants taking active steps to care for the researchers. Herein lies the paradox. This article is not a feel good testimonial of recounting touching relationships that developed during longer term, embedded research design projects. Rather the authors' insights on the multidirectional influences of the ethics of care results in a fundamental questioning of the validity of the entire design research process. Drawing upon two case studies, the authors articulate why relationships of care need to be acknowledged and taken into account at all stages of a research project, particularly for longer term qualitative projects.

Although the perspective that relationships are often a critical component to developing rigorous research projects is not novel in areas such as Indigenous studies—for the HCI community—the insights and perspectives shared through this article represent a significant contribution to the field's growing awareness of the paradoxes wrapped into our 'data collection' practices. Similar to the way Bidwell (e.g. 2014) calls out the flawed research results (and resulting harms) that too often are the result of drop-in, short-term research, Toombs and Gross draw our attention to the influence of caring relationships on the findings of HCI design researchers.

2.4. Commonalities Across Difference

Although the papers of this special issue cover diverse domains and engage with dissimilar issues, we identified

some key commonalities in their approaches, particularly in the way in which the authors embrace discomfort, attempt to cede power and acknowledge institutional pressures and structural inequalities.

2.4.1. *Embrace Discomfort*

To varying degrees, the authors acknowledge their (ever-shifting) positionality and the positions of others, but this is not a move that relieves tension, rather it makes space for them to recognize the tensions that exist and consider how they influence the research. Making room for such tensions without being able to relieve or remove them requires researchers to work with, rather than resolve, discomfort.

2.4.2. *Cede Power*

When one removes the laboratory coat of objective scientific expert, or never puts it on in the first place, hierarchies shift allowing those with institutionalized academic credentials to cede authority and power to those whose involvement is based on a different set of criteria (e.g. age, abilities, job role, life experience). Such moves are destabilizing to forms of inquiry that are grounded by traditions of objectivity and a singular truth. Additionally, reorienting the power structure does not guarantee a more benevolent or fair use of power, the power is simply shifted and the relationships influenced by that power are similarly impacted.

2.4.3. *Acknowledge Institutional Pressures and Structural Inequalities*

The agency of individual researchers is limited. They can acknowledge problematic institutional regulations, pressures for particular outcomes or structural inequalities that are found in many research settings, yet that does not mean that they can change any of these issues. It is here that the authors demonstrate how a dose of humility and clarity in both their engagements and in their writing may go some distance in avoiding over claiming in scholarly work or setting up unrealistic expectations with their research partners.

2.5. Complexity and Orders of Magnitude: Other Areas of Ethics Debate

In the following, we also want to touch on areas of ethical debate that are not covered in this special issue that relate to (big) data research, artificial intelligence, robots and agency.

In the age of the quantified self and ubiquitous online communications, through which our digital traces accumulate across the world wide web, discussions emerge on the ethical complexity of how we research and influence human behavior through 'big data' resources (Fiesler *et al.*, 2015). While online data provide unprecedented opportunities to study human behavior (Dunphy *et al.*, 2015), non-transparencies as to how these data are accessed and processed for research

purposes, often without explicit participant consent or any opportunity to opt-out, give rise to critical questions (i.e. Henderson *et al.*, 2013). Recent media attention and critique of research studies exploring people's emotions or political opinions for instance on social network sites provide opportunities to engage these questions (Bruckman *et al.*, 2010; Hutton and Henderson, 2015). These opportunities sparking public debate are too few, as data from the vast experiments that social media giants conduct are rarely shared with the broader research community, or the public (Brown *et al.*, 2016). One recent example where information from a study did make its way into the public eye involved experiments on Facebook users, whose mood was influenced through the way in which their timeline was manipulated (Kramer *et al.*, 2014). Other instances of non-transparencies include hidden data practices in hiring processes, where particular filters are applied in online applications to make job recruitment more effective for employers¹; potentially causing the exclusion of viable candidates.

Issues of visibility in the processes of data collection, analysis and presentation also form part of many current debates on machine learning or machine intelligence and robots (Deng 2015); exploring opportunities to assist human-machine intelligibility, and questioning how much transparency we need and consider useful for understanding (the processes and algorithms behind) machine intelligence systems? Ethically, this is further complicated in contexts where the technology itself is considered to have agency, and can act upon others and information provided. Questions emerge as to who is in control, how much control a systems should have and who should be held accountable for its actions? In the current age, robots not only assist in military operations or research, but are also increasingly part of healthcare provision; take up the role of assistants in household chores displacing human labor; and act as personal companions or toys (Lutz and Tamo 2015), especially for children or the elderly (Turkle, 2011). Each of these areas highlight the need for a multiplicity of ethically grounded approaches to technology design and in turn, to the research process. Each must be continuously held up for scrutiny.

2.6. Conclusion

The scholarship in this issue engages difficult questions concerning what it means for design research to do right by participants, researchers and the multiple audiences of our work. As excited as we are to call attention to the breadth of issues covered by the papers selected for this special issue, they are

¹The economist, Article from 6 April 2013, Big data and hiring, Robot recruiters, How software helps firms hire workers more efficiently, retrieved from <http://www.economist.com/news/business/21575820-how-software-helps-firms-hire-workers-more-efficiently-robot-recruiters>.

not presentative of the area as a whole. Myriad ethical challenges remain for others to address.

There is not only a need to revise ethical guidelines, work more collaboratively with ethics review boards (Munteanu *et al.*, 2015), and share sound practices with colleagues, but also to challenge HCI researchers' perspectives as to what it means to do ethical research. There is a growing need to rethink professional practice, pedagogical tools, institutional policies and collective understandings to better support those facing the question of action in design research. As we mentioned above, these issues include the quandaries of power and transparency that accompany uses and reuses of big data, 'raw data' and deeply decontextualized data. Also critiques of formal ethics procedures such as Institutional Review Board (mentioned earlier in this article) need to be balanced with explorations of alternatives and actionable ideas for improving them. The articles also raise questions as to our responsibilities as HCI researchers for teaching ethical approaches to future generations of students and researchers (i.e. Koepfler *et al.*, 2014). Many scholars highlight the need for more appropriate training in ethical practices for both students and professionals in HCI, whether they are engineers (i.e. Lutz and Tamo, 2015), designers or researchers (i.e. Bruckman *et al.*, 2010; Moncur, 2013). Yet, prioritizing, or even making space for such educational experiences is too often an afterthought when committees are developing or revising programs.

Consider the call² distributed a few days before CHI 2016 announcing a Special Interest Group on 'The Master's Degree in HCI at 20: Issues and Trends'. Put forward by the HCI Master's program directors from Georgia Tech, Carnegie Mellon and the University of Washington, the call included an open link to a Google survey that asked participants to choose three 'relevant HCI Master's Programs issues' that they wished to discuss from a list of 12 issues.³ Notably

²Link to the call for participation in the survey: <https://docs.google.com/forms/d/1oX6B7rx0RdUH2ae0ZFmrh0KqTF1kGzmZcKoHBd22gUs/viewform?c=0&w=1>

³The 12 top issues that were listed in the survey:

- (1) Industry involvement—What is the right balance to strike between what industry expects and a degree that continues to deliver value throughout an individual's career?
- (2) Breadth vs. depth—Should students become acquainted with a broad set of HCI topics, or become experts in a limited subset of them?
- (3) Shifting technology and tools—To what extent should university programs adapt and reflect these shifts?
- (4) Perspectives on methodology—How should current trends in development methods (e.g. Agile) be reflected in instruction?
- (5) Unified theoretical perspective—Should programs be structured around a common theoretical perspective, e.g. Computing school vs. I-School vs. D-School?
- (6) Increased demand—How are these programs managing enrollments and associated teaching and administrative demands?
- (7) Online course delivery—Can (or should) the reach of HCI programs be extended by offering courses/degrees online.

absent from the list of issues are pedagogical approaches and questions in support of developing the ethical aptitudes that HCI graduates will draw upon throughout their careers. How can we incorporate generative experiences with ethical issues and integrate reflective practices more prominently in HCI curricula?

In addition to calling attention to what is missing from this special issue, we are keenly aware that the work as a whole might imply that if researchers are reflective about their actions, they will do good work and avoid causing harm. We find this a problematic implication as the most well meaning, dedicated scholars who reflect on their work can make choices that have unanticipated harmful consequences. We are not asserting that the field can base ethics on the idea that all researchers will be good, fair and just. Rather, we stress that ethical quandaries are not singular. No matter what structures, principles or heuristics we follow, ethical difficulties, dilemmas and paradoxes will develop. We are not looking for, nor suggesting, that others strive for moral sainthood. Rather, we are committed to learning from the ongoing inquiry of how to ethically and iteratively address the question of action in HCI research.

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 - (10) Research—To what extent is a research component important to a professional Master's in HCI degree?
 - (11) Accessibility/Universal Design—How to incorporate education in this area into curricula?
 - (12) The "business" of HCI/UX—Should an HCI program prepare students to become more business savvy and thought leaders?

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