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## CHI4EVIL: Creative Speculation on the Negative Impacts of HCI Research

**Robert Soden**

University of Colorado Boulder  
Boulder, CO 80302, USA  
robert.soden@colorado.edu

**Michael Skirpan**

Carnegie Mellon University  
Pittsburgh, PA 15213, USA  
mskirpan@cmu.edu

**Casey Fiesler**

University of Colorado Boulder  
Boulder, CO 80302, USA  
casey.fiesler@colorado.edu

**Zahra Ashktorab**

IBM Research  
Yorktown, New York 10598, USA  
zahra.ashktorab1@ibm.com

**Eric Baumer**

Lehigh University  
Bethlehem, PA 18015, USA  
ericpsb@lehigh.edu

**Mark Blythe**

Northumbria University  
Newcastle, UK  
mark.blythe@northumbria.ac.uk

**Jasmine Jones**

University of Minnesota  
Minneapolis, MN 55455  
jazzij@umn.edu

**ABSTRACT**

The HCI community is experiencing a resurgence of interest in the ethical, social, and political dimensions of HCI research and practice. Despite increased attention to these issues is not always clear that our community has the tools or training to adequately think through some of the complex issues that these commitments raise.

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In this workshop, we will explore the creative use of HCI methods and concepts such as design fiction or speculative design to help anticipate and reflect on the potential downsides of our technology design, research, and implementation. How can these tools help us to critique some of the assumptions, metaphors, and patterns that drive our field forward? Can we, by intentionally adopting the personas of would-be evil-doers, learn something about how better to accomplish HCI for Good?

**Background**

The CHI community is experiencing a resurgence of interest in the ethical, social, and political dimensions of HCI research and practice. This is evidenced most directly by the 2016 conference theme, CHI4GOOD which, in the words of the co-chairs, sought to address “issues of social good through the innovation and creativity of the CHI community [[12]].” More recent conference panels and workshops [[6],[9],[14],[15], [16],[21],[28]], essays in *interactions* magazine [[3],[12], [29],[30]], and numerous scholarly publications across a range of HCI venues indicate that this concern is significant and ongoing [[1],[7],[25],[26],[27]]. To build awareness of, or anticipate how, technologies may contribute to concerning or ethically-questionable outcomes, we propose an inverted workshop “CHI4EVIL.” Through exploring the negative possibilities and consequences of emerging technologies, we hope to comparatively learn more about what doing good means to the CHI community.

The history of HCI reveals a sustained, if uneven, focus on the social consequences of technology. Research in the areas of participatory design, value sensitive design, sustainability, feminist HCI, indigeneity, postcolonial computing, ethics, and social justice have made powerful contributions to the HCI community’s collective ability to grapple with these questions [[2],[7],[11],[19]]. Recent developments in the technology community— personality-based profiling for political advertisement, internal use of undisclosed GPS data sharing to track users, mass and autonomous A/B testing on social media users, bias uncovered in systems and designs, and others—show we are still far from settling these questions. Indeed, we would argue that reflection on the social consequences of technology should be seen as part of regular, ongoing practice rather than a question to be settled [[1],[9],[22]]. Further, recent advances in the capacity and reach of ubiquitous computing, machine learning and AI, and surveillance technologies make these questions both more necessary and difficult to address.

This workshop will convene researchers from across the HCI community to explore, “how might our technologies be used for the purposes of evil?”. This sort of inversion is not uncommon in technology research and practice. Worst-case scenarios are frequent thought experiments in risk management and futurism. Ethical hackers attack systems in order to uncover and resolve their weaknesses.

In Science Fiction, novels including Atwood's *Oryx and Crake* and television shows such as *Black Mirror* and *Humans* draw upon current trends to envision dystopian futures in order to support critical thinking about the relations between technology and social life. A recent post in the Future of Computing blog has suggested that *all* peer-reviewed articles published in ACM include a section describing the potential negative impacts of the research [[18]].

We will deploy the tools and methods of HCI to support our collective exploration into the potential misuses of our work. Over the years, the HCI community has borrowed and/or developed a number of approaches that we will rely upon, including design fiction, speculative design, games, design patterns [[4],[17]], scenario development, and critical making. Organizers will also draw on the experience of several classroom exercises taught recently at CU Boulder and Lehigh University in the planning of the workshop.

The goals of this workshop are first, to contribute to the wider conversation about the ethical, social, and political consequences of HCI through creative examination of the potential for our work to be put to nefarious purposes. In particular we hope to support discussion of these issues across the various subfields that comprise HCI. We also seek to learn about the potentials and limitations of HCI methods such as design fiction to accomplish this. In doing so, this workshop will contribute to the development of novel approaches for discussing issues of values and ethics among HCI professionals and the broader population.

The workshop will be designed to facilitate participant interaction and collaboration around creative discussion of the potential negative impacts of our work. Activities during the day will include small-group discussion and peer feedback around accepted workshop papers. Participants will also collaborate around the development and presentation of new design fictions, performance pieces, or other creative works that envision and communicate the adoption of HCI research and design from the perspective of would-be evildoers.

The outcomes of the workshop will include collaborative projects developed over the course of the day—a posted set of “evil” designs—that will be available online on a dedicated website for continued discussion, teaching, or follow-up work. We will also share information on the design of the workshop itself, along with evaluations of the speculative activities we used in order to inform future research and workshops in this area.

Potential participants should submit a 2-4 page interest statement in the ACM extended abstract format. This statement could take various forms including short design fictions, description of the authors' experiences with the negative consequences of HCI technologies, or description of a novel HCI method for articulating potential downsides of technology. We seek participants from a wide range of disciplinary and personal backgrounds. Authors will be invited to participate in the workshop based on the originality and quality of their statements and their potential to contribute to a productive discussion. Workshop organizers will coordinate pre-

workshop peer commentary, such that each participant will receive detailed feedback from at least two other participants on their own submission during the workshop.

### Organizers

**Robert Soden** ([robert.soden@colorado.edu](mailto:robert.soden@colorado.edu)) is a PhD Candidate in Computer Science at the University of Colorado Boulder working on crisis informatics, human-centered computing (HCC), and science and technology studies (STS). His research examines the ways that the technologies that inform our understandings of the environment shape societal responses to disasters and climate change. *Robert is the primary contact person for this workshop.*

**Michael Skirpan** ([miskirpan@cmu.edu](mailto:miskirpan@cmu.edu)) is an ethicist, writer, artist, educator, and concerned citizen based out of Pittsburgh, PA. Currently Mike serves as the executive director at Community Forge and as a special faculty member at Carnegie Mellon University. He received a PhD from CU-Boulder's Department of Computer Science in Fall 2017.

**Casey Fiesler** ([casey.fiesler@colorado.edu](mailto:casey.fiesler@colorado.edu)) is an assistant professor in the Department of Information Science at the University of Colorado Boulder. Armed with a PhD in Human-Centered Computing from Georgia Tech and a JD from Vanderbilt Law School, she primarily researches social computing, law, ethics, and fan communities (occasionally all at the same time). She is part of the NSF-funded PERVADE project focused on research ethics for pervasive social data and has organized several past workshops at CHI and CSCW on the topics of ethics in computing [eg [12]].

**Zahra Ashktorab** ([zahra.ashktorab1@us.ibm.com](mailto:zahra.ashktorab1@us.ibm.com)) works in the Emergent Technologies group in IBM Research AI, where she studies study social technologies, AI systems and their influence on user behavior and interaction. She has done research on the detection and mitigation of malicious behavior in online spaces, and attitudes towards Belmont Principles among social computing researchers. Her interests and prior work lie at the intersection of machine learning, human-computer interaction, and design.

**Eric P. S. Baumer** ([ericpsb@lehigh.edu](mailto:ericpsb@lehigh.edu)) is Assistant Professor of Computer Science and Engineering at Lehigh University. His research focuses on interactions with AI and machine learning algorithms in the context of social computing systems.

**Mark Blythe** ([mark.blythe@northumbria.ac.uk](mailto:mark.blythe@northumbria.ac.uk)) is a design ethnographer working in the field of Human Computer Interaction. His research is concerned with the digital revolution we are stumbling and tumbling through and how this changes the ways we live, work, make art and grow old.

**Jasmine Jones** ([jazzij@umn.edu](mailto:jazzij@umn.edu)) is a postdoctoral researcher in the GroupLens HCI research group at the University of Minnesota. Jasmine received a PhD in Information Science from the University of Michigan in 2017.

**Workshop Timing**

9:00-9:15	Welcome and opening remarks
9:15-9:30	Participant self-introductions
9:30-10:30	Ice-breaker game
10:30-10:45	Morning coffee break
10:45-12:00	Peer feedback
12:00-13:00	Working Lunch
13:00-15:00	Group collaboration
15:00-15:15	Afternoon coffee break
15:15-16:45	Group presentations
16:45-17:00	Concluding discussion
18:00-20:00	Dinner (optional)

**Website**

The website for the workshop is located at: <https://chi4evil.wordpress.com>. It hosts the call for participation, relevant resources and background, details on the rationale and goals of the event, desired outcomes, and information about the organizers. Closer to the conference, it will also host the accepted position papers and relevant logistic information for participants. Following the workshop, the site will be updated with a short summary of the day and future plans for this work.

**Pre-Workshop Plans**

Prior to the workshop, the website will be used to solicit participation and provide background information. The website, along with the Call for Participation, will be circulated through CHI-Announcements, AIR-L, PhD-Design, the ACM SIGCHI Facebook page, and other relevant channels to generate interest. Once participants have been selected and confirmed, organizers will divide them into groups of 3-4, based on their submissions. Groups will read each other's papers prior to the workshop and arrive prepared to discuss (see Workshop Structure). Each accepted paper will therefore receive detailed peer feedback from at least two other authors.

**Workshop Structure**

The workshop will be designed to build toward developing, in self-organized groups, artifacts that illustrate how HCI research and design can be used for nefarious purposes. Super-villain costumes, though welcomed, will not be required for participation.

**Morning Session 1:**

Following a brief welcome from the organizers and self-introductions from attendees, an ice-breaker game will engage participants in a brainstorming exercise. The ice-breaker game will involve doing several quick, back-to-back rapid-ideation procedures. Using a speculation-based game similar to Stuart Candy's "The Thing from the Future," we will ask participants to describe technologies that fit into open-ended descriptors. Then, we will provide a catalog of technologies that are in development today (e.g., personalized information feeds, eye tracking, VR/AR, drones, and "autonomous" weapons) and ask what the worst outcomes of these developments may hold. Finally we will do a clustering exercise, pooling the ideas together by similar themes, and analyze the clusters with a participatory exercise that identifies the good, the bad, and the opportunities for change available in the found clusters.

**Morning Session 2: Peer Feedback**

Participants will divide into pre-assigned groups, based on the domains and/or methods of their workshop papers, to give and receive feedback on their submissions, discuss common ideas or areas of departure.

**Working Lunch**

Over lunch, participants will self-organize into groups based on morning activities and discussion to begin brainstorming their collaboration.

**Afternoon Session 1: Group collaboration**

Following lunch, workshop attendees will continue working in groups on collaborative development their projects. Workshop organizers will guide teams through a series of activities aimed at the creation of new design fictions, scenarios, artistic works or performances, research proposals, or other artifacts that envision negative uses of technology.

**Afternoon Session 2:**

During the final session of the day, groups will give brief presentation of their projects for feedback and discussion of all participants. In addition, organizers will facilitate a brief closing discussion around follow-up activities and feedback on the workshop design.

**Resources required**

This workshop will require standard conference room facilities including space for 25-30 participants and A/V equipment. Ideally the seating would be in rounds and other resources such as whiteboards or sticky-notes would be available to facilitate group collaboration.

**Post-Workshop Plans**

Following the workshop, a summary of the day's activities and will be posted on the workshop website along with participants' paper submissions and artifacts from the collaborative activity. Workshop organizers will also invite participants to contribute in the collaborative development of a teaching resource and vision paper [e.g. [22]]. These activities will be discussed in the closing session of the day.

**Call For Participation**

The HCI community is experiencing a resurgence of interest in the ethical, social, and political dimensions of HCI research and practice. Despite increased attention to these issues is not always clear that our community has the tools or training to adequately think through some of the complex issues that these commitments raise. In this workshop, we will explore the creative use of HCI methods and concepts such as design fiction, speculative design, or design patterns to help anticipate and reflect on the potential downsides of our technology design, research, and implementation. How can these tools help us to critique some of the assumptions, metaphors, and patterns that drive our field forward? Can we, by adopting the personas of would-be evil-doers, learn something about how better to accomplish HCI for Good?

Activities during the workshop will revolve around discussion of peer feedback on accepted workshop papers and collaborative development of new projects that imagine the potential use of their HCI research and design for evil. Potential participants should submit a 2-4 page interest statement in the ACM extended abstract format.

This statement could take various forms including short design fictions, description of the authors' experiences with the negative consequences of HCI technologies, or description of a novel HCI method for articulating potential downsides of technology. We seek participants from a wide range of disciplinary and personal backgrounds. Authors will be invited to participate in the workshop based on the quality and originality of their statements. More information at: <https://chi4evil.wordpress.com/>

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