Emerging Transdisciplinary Perspectives to Confront Dark Patterns

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ABSTRACT

Technology ethics is increasingly at the forefront of human-computer interaction scholarship, with increasing visibility not only to end users of technology, but also regulators, technology practitioners, and platforms. The notion of "dark patterns" has emerged as one common framing of technology manipulation, describing instances where psychological or perceptual tricks are used to decrease user agency and autonomy. In this panel, we have assembled a group of highly diverse early-career scholars that have built a transdisciplinary approach to scholarship on dark patterns, engaging with a range of socio-technical approaches and perspectives. Panelists will discuss their methodological approaches, key research questions to be considered in this emerging area of scholarship, and necessary connections between and among disciplinary perspectives to engage with the diverse constituencies that frame the creation, use, and impacts of dark patterns.

CCS CONCEPTS

• **Security and privacy → Social aspects of security and privacy**; • **Social and professional topics → Codes of ethics**; • **Human-centered computing → Empirical studies in HCI**.

KEYWORDS

dark patterns, ethics, privacy, transdisciplinarity

ACM Reference Format:
Colin M. Gray, Shruthi Sai Chivukula, Kerstin Bongard-Blanchy, Arunesh Mathur, Johanna Gunawan, and Brennan Schaffner. 2023. Emerging Transdisciplinary Perspectives to Confront Dark Patterns. In *Extended Abstracts of the 2023 CHI Conference on Human Factors in Computing Systems (CHI EA '23), April 23–28, 2023, Hamburg, Germany*. ACM, New York, NY, USA, 4 pages. https://doi.org/10.1145/3544549.3583745

CHI EA '23, April 23–28, 2023, Hamburg, Germany

ACM ISBN 978-1-4503-9422-2/23/04.
https://doi.org/10.1145/3544549.3583745

1 INTRODUCTION

Discourses of ethics, social responsibility, and manipulation are increasingly common, both in HCI scholarship and practice. This interest has resulted in both academically-focused [9, 30] and practitioner-focused [24, 25] books that relate to technology ethics, including an acknowledgment of the complexity of contemporary technology practice, the increasing popularity of growth-hacking techniques, and the diversity of concerns that underlie persuasion, manipulation, and coercion for a broad set of constituencies [14, 17, 21, 23].

Building on the neologism "dark patterns"[1] that Harry Brignull coined in 2010, numerous HCI scholars have sought to address issues relating to a constellation of technology ethics issues—relating to intersections of privacy [32], data protection [15, 28], manipulative and persuasive design [4, 13], and the role and responsibility of designers and technologists[3, 5], among others. Notably, much of this scholarship has been conducted by early-career researchers in Europe and North America, frequently leveraging inter- and trans-disciplinary approaches that work towards a convergent and shared notion of dark patterns that has the potential to connect scholarly agendas of numerous research communities. In the past year, this research agenda has also been connected with increasing interest by regulatory bodies in identifying and banning certain types of dark patterns (e.g., [1, 26], with connections to GDPR [15], CCPA [19], and the DSA [2].

Building on early work by Gray et al. [14] and the extensive definitional work of Mathur et al. [23], many scholars have begun to build out more comprehensive typologies of dark patterns, including those that attend to specific contexts of use [3, 6, 8, 31], legal remedies [15, 26, 28], and the potential for harms [18]. This panel seeks to intentionally build on a well-attended 2021 CHI workshop, *What can CHI do about Dark Patterns?*, that brought together over 40 HCI researchers that are seeking to address issues relating to dark patterns [20]—many of them early career researchers or doctoral students.

2 GOALS OF THE PANEL

We have assembled a diverse group of early-career scholars that have conducted research at the intersection of human-computer

[1] While there is some concern about potentially racialized connotations of this term, there has been no consensus on an acceptable and shared alternative. "Dark" patterns in this context refers to practices that are hidden and often inaccessible to end users due to the use of psychological tricks; in contrast, "bright" patterns increase agency and transparency (e.g., [10]).

interaction, ethics, privacy, and legal scholarship—framed at least in part through the concept of *dark patterns*. The moderator has prior experience conducting workshops at CHI and has engaged deeply in the scholarly discourse related to dark patterns across a range of contexts and disciplinary perspectives.

Colin M. Gray is an Associate Professor at Purdue University and will serve as the co-convener and moderator. Their research focuses on the ways in which the pedagogy and practice of designers informs the development of design ability, particularly in relation to ethics, design knowledge, and professional identity formation. Their research on dark patterns includes definitional work [14], end-user perspectives [11], the intersection of dark patterns and law [15], and engagement with ethics-focused discourses online [12, 13].

Shruthi Sai Chivukula is a Visiting Assistant Professor at Indiana University, Bloomington and will serve as a co-convener and panelist. Her research focuses on describing ethical felt complexity in HCI practice across a range of technology and design practitioners. Her work in dark patterns include studying #darkpatterns on Twitter [7] and end-user perspectives on manipulation [11], alongside ongoing work in describing media discourses around dark patterns and tech manipulation in India and China.

Kerstin Bongard-Blanchy is a researcher associate in human-computer interaction at the University of Luxembourg and will serve as a panelist. UX designer by training, she has gone back and forth between academia and industry. Having worked in the tension across company aspirations and user interests, she now benefits from her researcher role to investigate the user perspective on dark patterns and develop interventions that allow professionals to serve their company while safeguarding ethics [3, 28].

Arunesh Mathur is a researcher in the Competition and Markets Authority in the United Kingdom and will serve as a panelist. His research examines the societal impacts of digital technologies, with an emphasis on data privacy, consumer protection, and the governance and accountability of data-driven systems. His prior work on dark patterns examined their prevalence on e-commerce websites [22] and framed work to support the potential alignment of definitions of dark patterns [23].

Johanna Gunawan is a PhD candidate in Cybersecurity at Northeastern University and will serve as a panelist. With prior background in political science and technical writing, she focuses on improving consumer protections and privacy through the disciplines of computer science and law. Her work on dark patterns across modalities was presented at the FTC workshop on dark patterns, and her legal scholarship frames dark patterns as a component of eroded user trust in technology [16, 17].

Brennan Schaffner is a PhD candidate in Computer Science at the University of Chicago and will serve as a panelist. He seeks to make the internet more fair and transparent by researching ideas related to user empowerment and user agency, with a focus on exposing manipulative designs and enhancing consumer protection (e.g., [29]).

These emerging and early career scholars come from diverse educational and professional backgrounds, with experiences relating to technology ethics, web measurement, privacy and data security, and law. While the concept of dark patterns draws their work together topically, as a group they have employed a range of methodologies to address the socio-technical complexity of technology manipulation, drawing together end user, technology practitioner, regulator, and social impact perspectives in varying combinations. We anticipate that the differences in conceptual framing of dark patterns among our panelists, including different methodological orientations, job roles, and academic training, will lead to a rich and engaging discussion.

3 PANEL STRUCTURE

We will organize the panel around three core themes:

(1) Methodologically Pluralistic Approaches
(2) Transdisciplinary Framings
(3) Emergent Research Questions

3.1 Methodologically Pluralistic Approaches

Engaging with the complex presentation, impact, situational characteristics, and codification of dark patterns requires a range of methodological approaches. For researchers to use a pluralistic approach to methods requires multiple types of interdisciplinary skills, finding complementary synergies between interpretivist methods such as content and thematic analysis, auditing-focused methods such as web measurement, argumentation-focused methods such as philosophy and jurisprudence, or user-centered evaluation methods from cognitive science and ethnography. *What methods are needed to investigate dark patterns in realistic contexts? How can methods be productively combined or translated to meet particular challenges of dark patterns in relation to harm, transparency of intent, legality or ethicality? How would different methods target different framings or aspects of studying dark patterns?*

3.2 Transdisciplinary Framings

Building on a methodological pluralism of dark patterns scholarship, partnerships among researchers with different disciplinary training has the potential to illuminate different facets of technology manipulation. Researchers in this space draw on methods and perspectives from traditions such as computer science, web measurement, critical theory, design theory, cognitive psychology, behavioral economics, philosophy, ethics, and law. *How can these transdisciplinary framings be effectively forged to address specific presentations of dark patterns or particular kinds of social impact? What disciplinary perspectives should be more prominent, and in what instances? What strategies should be used to encourage translation and communication of ideas across different audiences—both within research communities and beyond?*

3.3 Emergent Research Questions

As dark patterns research continues to underscore the ubiquity and power of technological manipulation, some impacts are felt more acutely by certain communities. As work on dark patterns spans across many contexts, many types of devices, and many different communities, what areas should be prioritized? To address these issues, we consider the potential for a *prism of harm*, whereby different sources of "light" or perspectives might reveal different levels of potential harm—with some harms impossible to avoid,

and others that could be either successfully rejected based on the situation, amount of felt agency, and other contextual factors. The social impacts of dark patterns that are most unknown at this juncture relate to intersectional disempowerment, particularly felt by communities of low socio-economic status and communities of color, and others with lower agency or autonomy, such as children, the elderly, and disabled persons. *What kinds of questions should scholars of dark patterns pursue? How should researchers partner with communities impacted or other stakeholders to pursue positive change? How can we avoid creating blueprints for future user manipulation? What are potential domains to be targeted in the future to study this phenomenon?*

4 PANEL FORMAT AND OPPORTUNITIES FOR ENGAGEMENT

After a brief introduction to the concept of dark patterns using a Mentimeter "spot the dark pattern" interactive activity and an overview of the range of scholarship and regulatory action related to the topic led by the co-conveners, each panelist will briefly introduce themself, sharing their connection to dark patterns scholarship and their thoughts on the most pressing issues that HCI researchers should consider when addressing this topic. The remainder of the 75-minute session will be structured around the three core themes: 1) how to consider methodological pluralism in addressing the threats of dark patterns; 2) ways to consider forging or strengthening transdisciplinary connections to confront dark patterns; and 3) emergent areas of research relating to the proliferation of dark patterns. Each theme will be considered separately in an approximately 15-minute conversation among the panelists. The moderator will seek to bring out differences in perspective and approach among the panelists by using prepared questions posed in this proposal, questions from audience members, and provocations from other panelists. The moderation approach will be convergent and inclusive in tone, not seeking to promote a "debate for debate's sake," but rather a constructive and epistemologically pluralistic conversation on a challenging and timely topic where HCI scholars have the opportunity to have a real-world impact.

We plan for this panel to be offered in a hybrid format, allowing both in-person and virtual participants to hear the discussion, ask questions, and engage in backchannel conversations that will amplify the reach of the discussion. We plan to make interactivity between panelists and the audience a core component of the session. The moderator will monitor conversations on the conference platform (depending on the functionality provided) or Slido, which will aid in identifying additional questions for the panel to consider, alternate viewpoints that should be raised, or areas where there is strong consensus or dissensus. We will also encourage participants to participate in a conversation on social media platforms such as Twitter (if it still exists by April 2023) or Mastodon using both the #chi2023 and #darkpatterns hashtags, thus linking the CHI panel and related community to a broader transdisciplinary discourse on dark patterns that is already well established [27].

We will seek to make the panel accessible and interesting for all members of the CHI community, grappling with questions that transcend medium or interaction context and relate to issues of ethics and social impact. Through the three core organizing themes, we will seek to identify many different connecting points for CHI attendees to engage with the topic of dark patterns, whether they are already producing scholarship with direct relationships to the topic, have other domain knowledge that would helpfully extend this broad discourse, and/or wish to engage in the future of this area of scholarship. We will conclude the panel with a follow-up interactive activity using Slido or a similar tool, gathering consensus on potential next steps that HCI scholars and practitioners should take to confront the threat of dark patterns. Based on the range of responses received, we will synthesize the outcomes of the panel and publish them as a blog post that will be shared on social media to engage the broader dark patterns community.

ACKNOWLEDGMENTS

This work is funded in part by the National Science Foundation under Grant No. 1909714 and by the Luxembourg National Research Fund under Grant No. IS/14717072.

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