#darkpatterns: UX Practitioner Conversations About Ethical Design

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CHI'18 Extended Abstracts, April 21–26, 2018, Montreal, QC, Canada

ACM ISBN 978-1-4503-5621-3/18/04.
https://doi.org/10.1145/3170427.3188553

Abstract
There is increasing interest in the role that ethics plays in UX practice, however current guidance is largely driven by formalized frameworks and does not adequately describe "on the ground" practitioner conversations regarding ethics. In this late-breaking work, we identified and described conversations about a specific ethical phenomenon on Twitter using the hashtag #darkpatterns. We then determined the authors of these tweets and analyzed the types of artifacts or links they shared. We found that UX practitioners were most likely to share tweets with this hashtag, and that a majority of tweets either mentioned an artifact or "shames" an organization that engages in manipulative UX practices. We identify implications for building an enhanced understanding of pragmatist ethics from a practitioner perspective.

Author Keywords
Dark patterns; Twitter; ethics; practice-led research.

ACM Classification Keywords
H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

Introduction
In this study, we engage with existing interest and scholarship within the HCI community on the nature of design practice, the place of ethics and values in design action, and the kinds of ethical concern that are

particular to UX practice. This late-breaking work focuses on practitioners' discourses on Twitter that relate to the ethical phenomenon of "dark patterns."

There has been increasing interest by HCI scholars in the exploration of ethical considerations and in design as researchers, often in relation to the impact of technology and design on society [e.g. 1,7,8,17]. Previously, researchers have addressed these technological and social challenges through approaches such as critical design [2], value-sensitive design (VSD) [8], and values at play [7] . These approaches have been shown to be effective in research contexts, but display unclear applications in everyday UX design. We approach issues of ethical awareness and means for action through a practice-led approach [12], considering this study as a form of researcher-driven bubble-up research [10] that describes "on the ground" knowledge-building activities of practitioners that have relevance for HCI research on ethics and values.

Our contribution to the HCI literature with this late-breaking work is two-fold: First, we describe practice-led discourses surrounding ethics using the #darkpatterns hashtag, indicating the extent to which ethical issues arise on Twitter and how strongly these posts are linked to the practitioner community. Second, building on these #darkpatterns tweets, we analyze the types of ethical challenges that are mentioned, furthering knowledge about how practitioners perceive and wish to act upon ethical challenges.

Related Work

Ethics and Values in HCI methods such as VSD [8], values at play[7], value levers [17], and persuasive design [6] have been discussed within the HCI community for the past decade. From an academic perspective, VSD currently is the most comprehensive framework to address the question of values in design as "a theoretically grounded approach to the design of technology that accounts for human values in a principled and comprehensive manner throughout the design process." However, with the exception of limited engagements with practitioners (e.g., [17]), many of these ethical frameworks have limited application in authentic design practices, and it is unclear how many practitioners are aware of and able to use such methods to support their design practices.

Dark Patterns in UX Design

Within our practice-led framing, we wish to discover the ways in which practitioners are already discussing issues of ethics and values, in parallel to the academic discourse mentioned in the previous section. The neologism "dark patterns" was created by UX practitioners [4,5] to discuss the impacts of falsely persuading design practices and provide language to "shame" offending companies and designers. A dark pattern is defined as "a user interface that has been carefully crafted to trick users into doing things...they are not mistakes, they are carefully crafted with a solid understanding of human psychology, and they do not have the user's interests in mind" [5].

Although the concept of dark patterns has evolved in primarily within design practice, with limited reference in the academic literature [9], it seems to have resonance with academic knowledge that is focused on higher-level ethical theories and methods such as strategies of persuasion [6]. In this late-breaking work and in a larger research project that focuses on dark patterns, we wish to link academic theories regarding

Examples of Themes from Our Content Analysis

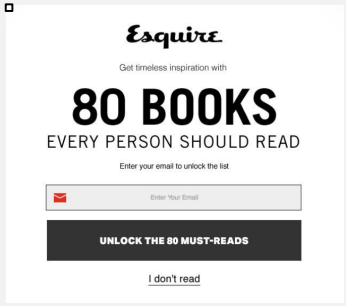

Figure 3a. The author identifies this popup on a website as being a dark pattern, indirectly identifying the guilty party because the name of the company is on the image.

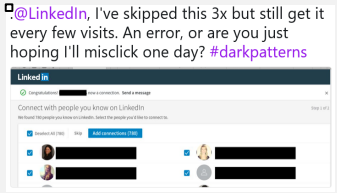

Figure 3a. This tweet was shared as an example of the unethical design practices some of our authors reported being used by LinkedIn.

ethics and values with the conversations practitioners are already having about ethics through applied concepts such as "dark patterns."

Social Media and Practitioner Discourses

Design practitioners use a variety of sources to maintain their competence over time, using these sources to further their development of disciplinary knowledge [18]. Past research has shown that online design communities have become important places for designers to build their competency through practices such as design work critique [19] and socializing with fellow practitioners [14]. One such social media site, Twitter, is commonly used by practitioners for personal branding [13], professional communication with colleagues [18], and affords conversational interaction and collaboration through its use of features such as hashtags and @ markers [11].

Our Approach

We collected and analyzed UX practitioner conversations about ethics on Twitter using the hashtag #darkpatterns. Our dataset was created by incrementally collecting all public tweets containing #darkpatterns written within a four-month period (May to August 2017; n=458) using the Twitter Streaming API. After collection, we cleaned the dataset by removing duplicate tweets, re-tweets, and tweets in a foreign language, resulting in a final dataset (n=220).

We then performed a content analysis of the dataset, first focusing on tweet metadata (i.e., author, geolocation) and then on the contents of the tweet itself. Through content analysis [15] and inspection of linked profile information, we identified authors' occupations and geolocation data, as well as general themes present in the material being shared by authors. We then performed a thematic analysis [3] of tweets sharing a dark pattern using the findings from [9] to categorize concerns being raised by authors, nonexclusively assigning tweets to emergent themes.

Findings

Within this dataset, we identified 210 unique authors (M=~1, SD=0.87) from 27 different countries, with the United States (n=56) and the United Kingdom (n=35) containing the most authors. Within the United States, authors were located in 17 states, with authors predominately residing in California and other states with a dominant UX presence. We then analyzed the profiles of tweet authors to determine the occupation of #darkpatterns authors, using evidence from author bios and linked websites, where available. Occupation data was available for 184 of the unique authors identified. We found that the majority of #darkpatterns authors held occupations or education in fields related to UX design (n=72/184). Only 8 (4.3%) authors reported occupations unrelated to technology fields. This finding confirms that these tweets largely reflect UX practitioner conversations about ethics.

Our thematic analysis revealed general content sharing practices, such as: identifying dark patterns (e.g., Figure 3a), identifying companies guilty of engaging in unethical design practices (e.g., Figure 3b), general conversation about ethical design (n=18, Figure 3c), sharing articles related to dark patterns (e.g., Figure 3d), and attempting to identify a dark pattern, but mistaking bad design for unethical behavior (e.g., Figure 3e). The distribution of the occurrences of these themes within the data is illustrated in Figure 2.

Figure 3c. This example was shared to educate readers about a type of dark pattern. The image and proceeding text encouraged designers to use ethical tactics.

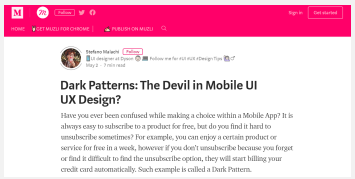

Figure 3d. This portion of an article was shared by numerous authors in our dataset.

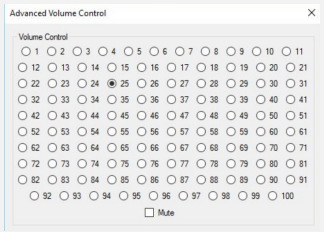

Figure 3e. This shared image was a case of bad design mislabeled as a dark pattern.

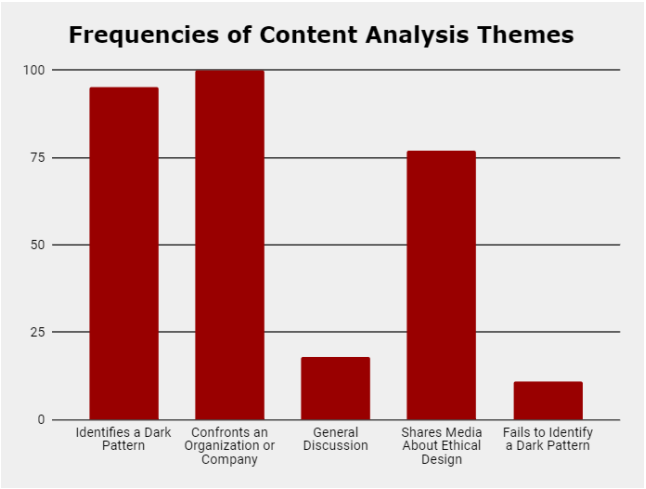

Figure 2. Distribution of tweets across the five emergent themes, coded nonexclusively.

Authors most frequently used the #darkpatterns tag to identify dark patterns and hold companies accountable for employing unethical design tactics. Our content and thematic analyses suggest that the UX practitioners are using social media as a platform to promote ethical design practices. #darkpatterns tweets are being used to both share information about dark patterns so that they may be readily identified, and to publicly denounce companies for implementing dark patterns in their design practices. Additionally, these data show a general consensus among authors that dark patterns should not be incorporated into design (e.g., Figure 3c; "Don't block the users [sic] progress toward their goals"). No tweets advocated the use of dark patterns.

The many tweets sharing or describing a dark pattern prompted a thematic analysis of this portion of the data. 68 companies were identified by authors for using unethical design practices, and were either directly or indirectly confronted by the author, with the most common companies being Amazon (n=7), Facebook (n=5), and LinkedIn (n=5). Using an a priori typology of strategies that designers use to incorporate dark pattern, based on a corpus developed in our prior work [9], it was determined that interface interference, sneaking, and obstruction were the most common dark patterns addressed by authors (Figure 4).

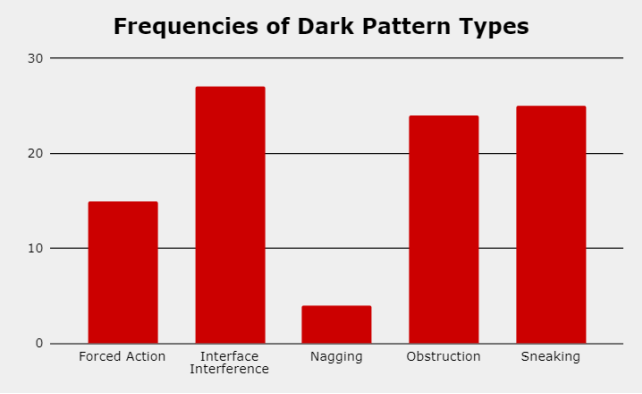

Figure 4. Distribution of tweets across the five dark pattern strategies from [9].

A common interface interference tactic was aesthetic manipulation, which includes "any manipulation of the user interface that deals more directly with form than function ([9]; see Figure 5). Another user described sneaking, or "an attempt to hide, disguise, or delay the divulging of information that has relevance to the user" [9] in the following tweet: "Pretty horrific #darkpatterns in play by @Fabletics have left my wife paying a £44pcm membership for gym wear after a single purchase."

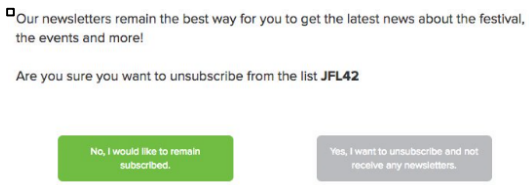

Figure 5. An example of interface interference (aesthetic manipulation) shared by an author.

Discussion and Implications

We have described the content of ethical conversations on Twitter. These conversations indicates practitioner interest and concern relating to ethical issues in their discipline, and a desire to "call out" or "shame" offending designers or companies. In many ways, this discourse is more grounded in the realities of practice and Stolterman's [18] notion of *design complexity* than the methods-focused conversation in academic HCI literature. These tweets have the potential to provide insight into designer practices, concerns, and potential remedies (e.g., public shaming) that could impact ethics scholarship in the HCI community. Potentially, these examples could be mined for ethics education in HCI, and as a test case to see what kinds of issues are currently impacting practice. Synthetic work is needed to compare the ethical phenomena impacting practice and extant methods or ethical frameworks to identify deficits or opportunities for further research. While we have begun this process by identifying types of dark patterns in this and prior work [9], additional research is needed to determine actionable methods to activate ethical awareness in everyday UX practices.

Conclusion

In this late breaking work, we have examined a practice-led discourse regarding ethics in UX on Twitter. By using the #darkpatterns hashtag to isolate tweets that mention ethical concerns, we identified that practitioners are using social media as a tool to generate others' awareness of dark patterns through the sharing of exemplars, hold companies accountable through public shaming, and to promote a conversation about ethical design practices. Additional investigation is needed to further reveal the ways in which pragmatist ethics may frame UX practitioners' conception of personal and disciplinary responsibility.

Acknowledgements

This research was funded in part by National Science Foundation Grant No. #1657310.

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