TALES FROM THE DARK SIDE

The Influence of Dark Patterns on Privacy in Aotearoa, New Zealand

FINAL RESEARCH REPORT

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EXECUTIVE SUMMARY

Dark patterns are a recent phenomenon in User Experience (UX) design, and constitute a significant threat to data privacy. The goal of dark patterns is to manipulate the user into performing an action that is inconsistent with their preferences. In the context of data privacy, dark patterns are instrumental in encouraging users towards the least privacy-friendly options. However, there is very little understanding of the implementation of dark patterns from the perspective of designers, nor is there widespread knowledge of dark patterns within the design community.

This research project, titled *Tales from the Darkside*, foregrounds the perspectives of designers regarding dark patterns, design ethics and their influence on shaping data privacy outcomes for users. Grounded in ethnographic scholarship, this project found designers are not currently supporting optimal data privacy outcomes and there exists a missing layer of accountability in New Zealand on the governance of design and data privacy. These conclusions are based on three key findings: (1) designers care about data privacy due to their own 'moral compass'; (2) however, designers are often restricted in their ability to consider privacy issues due to commercial pressures to reduce costs, the lack of ethical inquiry integrated into projects or workflows, and limited purview of the entire project; (3) designers' understanding of the ethics of their practice do not currently match determinations made by international privacy and design scholars.

In addition, *Tales from the Darkside* hosted a co-design workshop with designers, privacy experts and public sector officials. We found there is signficant interest to develop design standards and/or governance frameworks to assist designers to improve privacy outcomes for users and that such frameworks should complement Māori data sovereignty (MDS) frameworks. Ultimately, *Tales from the Darkside* recommends that: (1) the public sector build capacity with regards to design and privacy and expertise; (2) standards and/or governance frameworks are developed to address the missing accountability of design and privacy in New Zealand; and (3) these frameworks are underpinned by a MDS approach.

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1. INTRODUCTION

In 2019, our research team was awarded the Privacy Good Research Fund (PGRF) to study dark patterns in the New Zealand design industry. Dark patterns are a recent phenomenon in the field of User Experience (UX) and User Interaction (UI) design and constitute a significant threat to data privacy. The goal of dark patterns is to deceive or manipulate the user into performing an action that is inconsistent with their preferences. A powerful concept through which to categorise and identify deceitful tactics of interaction, dark patterns typically exploit cognitive biases in the user, such as framing effects and the sunk cost fallacy. In the context of data privacy, dark patterns can be instrumental in encouraging users towards the least privacy-friendly options.

Our research project, titled *Tales from the Dark Side*, foregrounds the perspectives of UX designers with regards to the ethics of their practice and user privacy. Grounded in ethnographic design scholarship, *Tales from the Dark Side* aims to: (1) reveal the agency of designers in relation to privacy decision-making; and (2) raise awareness in the New Zealand design and privacy community, as well as the public sector about the ethics of dark patterns and design.

This report provides an overview of our research on dark patterns and is structured as follows. In the next section we provide an overview of our research project. This includes background information about dark patterns, how it relates to user privacy, and the New Zealand context. We then outline our research objectives, goals and questions, followed by our methodology and results. In section three we discuss the aims and outcomes of our co-design workshop. We close the report with a list of recommendations and offer suggestions for future research on dark patterns and design ethics in Aotearoa, New Zealand.

2. RESEARCH PROJECT

Background: Dark Patterns & Privacy

Cognitive science and behavioural psychology are increasingly common disciplinary partners for interaction and user-experience (UX) designers. Psychological scholarship on human emotion and cognition is becoming incorporated into the design and deployment of digital technologies for a range of purposes, including sentiment analysis, which uses algorithm processing to determine mood, affect, and emotion in the text of individual documents and that of the social web itself; the development of affect-capture software in voice- and facial-recognition software; the interaction design of mood tracking applications; and the design of social media platforms. The psychological approach to interaction design has become known by a range of monikers, including 'persuasive technology' and 'designing with intent', and has the goal of influencing user behavior, emotion, and cognition through design.

The intertwining of behavioural and cognitive psychology with design practice is the landscape in which dark patterns of user experience have emerged. The term 'dark pattern' was coined by User Experience (UX) Designer Harry Brignull on the website darkpatterns.org, which catalogues instances where established design patterns and user behaviours are leveraged to manipulate or deceive users. Dark patterns are derived from the concept of 'design patterns', where designers capture an instance of a problem and a corresponding solution, abstract it from a specific use case, and shape it in a more generic way, so that it can be applied and reused in various matching scenarios. In instances where interactions are prescriptive—for example, entering an email address in a form—the design can make the user's task easier by providing options that predict their response. A 'dark pattern' is the use of this approach to mislead a user for the benefit of another, and tricks users into performing unintended and unwanted actions, based on a deceitful interface design.

Generally, 'dark patterns' refers to tactics used in the online space—for example, an advertisement on a webpage disguised as a function. However, as the word 'pattern' indicates, these techniques may be abstracted from their

specific context and applied to a range of other technologies. Building on Brignull's taxonomy, Gray et al. summarize dark patterns into five strategy groups that are consistent with potential design motivations:

> (1) Nagging: redirection of expected functionality that persists beyond one or more interaction(s).
>
> (2) Obstruction: making a process more difficult than it needs to be, with the intent of dissuading certain action(s).
>
> (3) Sneaking: attempting to hide, disguise, or delay the divulging of information that is relevant to the user.
>
> (4) Interface interference: manipulation of the user interface that privileges certain actions over others.
>
> (5) Forced action: requiring the user to perform a certain action to access (or continue to access) certain functionality.

Dark patterns are first and foremost a privacy problem. By using a familiar design-language of interaction against the user, dark patterns effectively disregard the ethical notions of transparency, informed consent, and reasonable expectations of privacy. In April 2019, one of the world's leading privacy scholars, Professor Paul Ohm, testified before the Federal Trade Commission (F.T.C.); he claimed that, in his estimation, 2019 would be "the year of the dark pattern", and called dark patterns one of the most pressing threats to privacy faced by consumers today.[1] Research by Christoph Bosch and colleagues demonstrate that online service providers have become more and more sophisticated in deceiving users to hand over their personal information, and that the use of dark patterns to collect privacy-sensitive data have become widespread (2016). Lugiri and Strahilivaitz, in the first major empirical study of the effectiveness of dark patterns in eliciting personal data,

[1] See F.T.C. Hearing, Competition and Consumer Protection in the Twenty-First Century, April 9, 2019, Testimony of Professor Paul Ohm, Georgetown University, Transcript at 49 ("my prediction for 2019 ... is this is the year where dark patterns really becomes the kind of thing that we're really talking a lot about."), available at https://www.FTC.gov/system/files/documents/public_events/1418273/FTC_hearings_session_12_transcr ipt_day_1_4-9-19.pdf.

write: "Our bottom line is that dark patterns are strikingly effective in getting consumers to do what they would not do when confronted with more neutral user interfaces" (2019, p.5).

The New Zealand Context

Although there is currently no research on dark patterns in the New Zealand context to date, we consider our research project to fit within, and to strengthen, PBD strategies and privacy patterns in New Zealand.

Privacy by Design in New Zealand

Privacy strategies and privacy patterns are fundamental concepts of the Privacy by Design approach. The concept of PBD—embedding privacy protections into products during the initial design phase rather than retroactively—uses the work of design to enlist technical artefacts in implementing policy choices (Cavoukian, 2010; Wong & Mulligan, 2019).

PBD is gaining traction internationally, in part due to its inclusion in the E.U.'s General Data Protection Regulation (GDPR), policy recommendations by the U.S. Federal Trade Commission, and guidance from privacy advisory and regulatory bodies around the globe. The GDPR, for example, states that data controllers "shall implement appropriate technical and organizational measures" as part of "data protection by design and by default" (GDPR, Article 25). In the U.S., the Federal Trade Commission has recommended that companies adopt PBD to "promote consumer privacy throughout their organizations and at every stage of the development of their products and services" (FTC, 2012).

New Zealand has kept pace with international trends in PBD and, in some cases, has been at the forefront of PBD initiatives. While New Zealand does not regulate privacy by design, the Office of the Privacy Commissioner (OPC) launched a new Privacy Trust Mark (Noho Matatapu) in 2018, giving assurance that a product or service has been designed with their privacy interests in mind (OPC, 2018). Three New Zealand products and services have received a Privacy Trust Mark to date; a number of other New Zealand companies and public organisations have implemented PBD into their products, services, and organisational structures—for example, Customs New Zealand, Statistics New Zealand, Kensington Swan, and Xero. Beyond

this, however, PBD in New Zealand is implemented on an ad hoc basis, especially in the commercial human-computer interaction (HCI) sector, where persuasive design tactics are, overwhelmingly, the norm rather than the exception.

Research Objectives

To date, there have been two waves of scholarship into dark patterns. The first created a taxonomy of dark pattern phenomena and mapped their prevalence in the online space (Bosch et al., 2016; Grey et al., 2018; Mathur et al, 2019). The second wave examines the perspectives and effects of dark patterns on users and consumers (Luguri & Strahilevitz, 2019). Although this literature attributes motivation for design decisions to the designers, they do not consult designers themselves about their practices, methods, agency, or ethics. Luguri and Strahilevitz, for example, make this assumption:

> [W]e suspect that the kind of research results we report here have been replicated by social scientists working in-house for technology and ecommerce companies. Our hunch is that consumers are seeing so many dark patterns in the wild because the internal, proprietary research suggests dark patterns are presently profit- maximizing for the firms that employ them. (2019, 4)

Research conducted by Gray et al. and Nodder, goes some way in teasing apart the complex ethical territory of dark patterns in design practice, although their work is similarly speculative. Gray and colleagues point out that "the emergence and use of dark patterns as an ethical concern in HCI and UX design reveals that design is rarely a solitary endeavor; in contrast, the complex entanglement among designer responsibility, organizational pressures, and neoliberal values often politicizes and prioritizes the profitability of design above other social motivations" (2018). Gray et al. also highlight the problem of attributing 'dark' intentions to an interaction strategy, questioning: "[w]here along this trajectory does a pattern become dark, and with what level of intentionality? A design decision may have been made with good intentions for a specific audience, but resulted in manipulative outcomes when exposed to a broader audience" (2018). Similarly, Chris Nodder points out that there is persuasive intent underlying all design practice, and that designers work hard to control the emotions and

behaviours of users. He writes: "truly great websites—good or evil—use specific techniques to get users to perform the design task time and time again" (2013).

Therefore, although the phenomenon of dark patterns is often framed as an ethical concern—a practice of co-opting human-centered values in the service of "deceptive or malicious aims" (Gray et al, 2018)—the implementation of dark patterns in real-world UX/UI design practice remains critically unexplored, subject only to speculation and assumption. Further, there is currently no unified understanding of dark patterns from a design industry perspective. Our research sets out to explore why this is so, and seeks to redress this important gap in dark patterns scholarship.

Goals

Given these scholarly, regulatory, and industry contexts, what is clearly needed is an in-depth understanding of how dark patterns are implemented within the practices and processes of UX/UI design. This is a crucial step in understanding—and potentially regulating—the use of dark patterns in New Zealand's UX design. Our ethnographic scholarship on dark patterns will provide a sound basis from which we can achieve the following:

1. An understanding of the organisational culture in which dark patterns are implemented in New Zealand UX/UI design—specifically, our goal is to understand the activity, action, and agency of UX/UI designers in relation to privacy decision making.

2. Encourage buy-in from the UX design community in light of national and international privacy-led initiatives regarding personal data. The project will facilitate collaborations and research exchanges among the HCI design and privacy research communities, which will enrich and broaden the understanding of UX/UI design in New Zealand. In particular, we aim to identify design approaches that foreground privacy values and use design to explore and define the data privacy problem (or solution) space, including values-based and critically oriented design. These design approaches are a missing piece of the PBD puzzle and are essential to the protection of a more diverse range of privacy concepts and the full realisation of PBD (Wong & Mulligan, 2019). Bringing together New Zealand's PBD with HCI's design community and privacy research will help encourage more holistic discussions, drawing connections among privacy's social, legal, and technical aspects.

Research Question

What is the agency of designers regarding decisions about user choice, consent, and privacy decision-making in the course of a digital project?

Methodology

We conducted a series of ethnographic interviews with 13 designers and design consultants across New Zealand, whose roles relate to the design and development of digital products and services. Although our original aim was to study UX practitioners across New Zealand and Australia, the Covid-19 pandemic limited our study to New Zealand, and we acknowledge this as a limitation of our research. Our aim was to understand a range of sectors and organizations, with participants' workplaces ranging from in-house design at large companies, design consultancies, and government departments. Recruitment of participants was via our professional networks and snowball sampling.

The interviews were semi-structured and sought to capture rich descriptive detail of the experience of the participants in their day-to-day design practice. An interview guide was provided to prompt discussion of how and where aspects of ethical decision-making presented in the course of a digital project. Each interview was 60 minutes in length, and all were recorded using an iPhone. A research assistant manually transcribed the interviews, which were then checked by the researchers to ensure accuracy.

Sample questions

How do you plan your project with a client?

What sorts of considerations are involved during the client project?

Do ethical considerations come up in the course of a client project?

Are ethical questions negotiated with clients? If so, how?

Do privacy-related decisions come into the design process?

What do you believe are your ethical responsibilities to users of your designs, if any?

How do you know if these responsibilities are met?

Should designers have a code of ethics?

Is there such a thing as an unethical design decision?

Participants' job titles ranged from experience designer, service designer, content consultant, and digital creative director. Although most participants acknowledged that there was no "typical" project and their role varied from one project to the next, most participants' jobs involved aspects of user design, user research, prototyping, interaction design, visual design, and user testing. We refer to the study participants simply as 'designers' for the remainder of the report.

Name (anonymized)	*Industry type*	*Role*
Adele	Agency or consultancy	Experience designer
Connor	Government	Senior designer
Lola	Agency or consultancy	Experience designer
Aaron	Agency or consultancy	Creative director
Clara	Enterprise	Digital creative director
Evie	Agency or consultancy	Content consultant
Jane	Agency or consultancy	Content consultant
Linda	Agency or consultancy	Content consultant
Louie	Agency or consultancy	Content consultant
Max	Agency or consultancy	Content consultant
Iris	Agency or consultancy	Content consultant
Oliver	Agency or consultancy	Content consultant
May	Government	Service designer

Table 1: Study participants, their industries and roles

Following the interviews, we conducted a grounded thematic analysis of the transcripts to identify emergent themes, which are discussed in the next section.

Results

Guided by our research question, What is the agency of designers regarding decisions about user choice, consent, and privacy decision-making in the course of a digital project?, we identified three principles themes: (1) designers feel motivated to act ethically due to their own 'moral compass'; (2) however, designers are often restricted in their ability to act ethically due to commercial pressures to reduce costs, the lack of ethical inquiry integrated into projects or workflows, and limited purview of the entire project; (3) designers' understanding of the ethics of their practice do not currently match determinations made by international privacy and design scholars. These themes suggest important motivations for, and obstacles to, the mobilization of ethical decisions in design practice, and are analyzed and discussed in further detail below.

Moral compass

We found that the vast majority of participants expressed concern about user privacy. Many were motivated by what they described as an individual 'moral compass' in regards to data privacy and ethics.

In particular, we found that the designers' concept of ethics has a strong orientation towards accessibility standards, to the point that ethical design was frequently conflated with issues of accessibility.

However, unlike the new Web Accessibility Standards that were formalised in New Zealand in 2019, there are currently no guidelines for user privacy used within New Zealand UX/UI design. Many designers we spoke to expressed a strong desire for the implementation of privacy guidelines to support them to advocate for greater privacy mechanisms to be built into their designs.

Informality of ethical activities and commercial pressures

Many designers considered themselves the only advocate for user privacy within a workflow; however, most felt unsupported in raising issues of user privacy with clients or product owners. The most common reason was commercial pressure to deliver design services as quickly as possible.

Designers from agencies shared that they are often restricted by the brief from their clients. Having conversations about ethics depended on team make-up, professional position or authority, level of comfort with the client, or the opportunity to raise such issues with the client.

Sometimes ethical decisions and privacy-related issues were described as risks to the business, as opposed to moral issues.

Limited awareness of the agency to influence privacy outcomes

Finally, our participants also demonstrated limited awareness of their agency to influence privacy outcomes. The topic of dark patterns was generically identified as 'bad' and associated as a design mistake that is not the intention of the designer.

These findings contrast with scholarly literature that claim dark patterns are intentional design techniques that aim to manipulate the user against their wishes and are distinct from 'bad design' or the unintentional creation of an inconvenient user experience (Gray et al. 2020).

In addition, we found that discussions of user or data privacy within organisations overwhelmingly emphasised data handling and use, rather than the mechanisms through which user data are captured. Interface design was a highly overlooked area within the field of user or data privacy.

These findings indicate the need for greater certainty regarding the ethical obtainment of personal data. Further, they indicate the need for greater support for UX/UI designers to advocate for privacy-led approaches to interface design.

For a full summary of our results, please refer to a preproof copy of our submitted article, which can be found via the *Tales from the Darkside* website at: https://informedby.files.wordpress.com/2020/09/privacy-dark-patterns-with-authors.pdf

To raise awareness about our research, the *Tales from the Darkside* team published an article on *The Conversation*, we can be found at: https://theconversation.com/we-need-a-code-to-protect-our-online-privacy-and-wipe-out-dark-patterns-in-digital-design-145622

3. CO-DESIGN WORKSHOP

Near the conclusion of the research project, we hosted a Co-Design Workshop on 'UX Design and Data Privacy'. The one-day workshop brought together UX/UI designers with the privacy research community and other interested parties to facilitate collaboration and research exchanges. In particular, the workshop aimed to enrich and broaden the understanding of dark patterns in UX/UI design in New Zealand, and identify design approaches that prioritise data privacy, such as values-based design and critically oriented design.

The workshop opened with a keynote presentation from leading international dark patterns scholar Colin Gray, Purdue University, Indianapolis. Gray provided an overview of dark patterns and discussed his research on dark patterns and design ethics. This was followed by a presentation from *Tales from the Darkside* project lead Cherie Lacey on the project's findings so far.

Presentations were followed by open discussions about dark patterns in New Zealand. Co-design explicitly treats all stakeholders as expert contributors to the challenge at hand. Participants were allowed to build upon the initial findings of *Tales from the Darkside* and reflecting and iterate as group on what are the key principles, opportunities, and barriers inherent in privacy-led design.

In general, there was agreement that a professional body and/or code of practice on design and data privacy is needed to reduce dark pattern design. Participants discussed the importance of incentivizing best practice design in relation to user privacy. It was also suggested that dark patterns represent the most egregious types of manipulative design and any privacy standards should not ignore morally grey areas where it is difficult to ascertain if the design pattern is too persuaive or unethical. Other suggestions included that standards should learn from international attempts to regulate dark patterns, such as in California, United States.

Participants expressed strong opinions that New Zealand design privacy standards should be underpinned by a Māori data sovereignty (MDS) approach. MDS is an area of scholarship that argues digital technologies and

platforms prohibit Māori people's right to self-govern and determine by extracting and instrumentalizing data about Māori (Kukutai and Taylor, 2016). Some participants also highlighted the downside of prescriptive legislation or high compliance costs for businesses.

Finally, there was broad support for a further workshop and/or meetups to discuss the development of design standards and governance of design and data privacy.

4. RECOMMENDATIONS

Following our findings and outcomes from the co-design workshop, we offer the following recommendations:

1. *Build design privacy and ethics expertise in the public sector*

A key outcome from our research is that there exists a missing layer of accountability concerning who governs issues relating to the influence of design on data privacy. New Zealand legislation currently appears to be largely silent with regards to the influence of design on user privacy. It is unclear whether dark patterns are an issue of illegal trading (currently captured under the Fair Trading Act, 1986, enforced by the Commerce Commission); of privacy (Privacy Act, 1993, enforced by the Office of the Privacy Commissioner); or unsolicited communications (Unsolicited Electronic Messages Act, 2007, enforced by the Department of Internal Affairs).

Therefore, a principle recommendation is that the government develops best practice expertise in design and data privacy. Possible outputs from this could be the development of design privacy standards in consulation with the commercial sector. These standards could provide certainty to designers with regards to what constitutes dark patterns in New Zealand design, and more broadly, what is unethical design. Web Accessibility Standards offer a possible precedent.

2. *Understand the relationship between dark patterns and Māori data sovereignty*

There was considerable interest by workshop attendees in exploring how dark patterns relate to MDS. We recommend that further research is undertaken to understand how dark patterns prohibit the right of Māori to self-govern and determination. We have already begun this work with the potential to extend the project in future years. With this in mind, we have begun consulting with Te Mana Raraunga (The Māori Data Sovereignty Network) to further develop an understanding of dark patterns in the context of data colonialism.

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