

What are 'dark patterns?'

Ubiquitous digital experiences give rise to user interface designs that interfere with user behavior towards negative outcomes. Sometimes known as 'dark patterns,' these design patterns may impede user autonomy, finances, and privacy by exploiting cognitive biases and manipulating consumers into certain choices.

Some 'nag' you, other patterns privilege some options over others; some make it difficult to opt-out or choose alternatives. Some dark patterns use evocative language to entice or shame you into a sale.

We are concerned with the exploitation of these designs writ large towards undesirable consumer outcomes, and work to understand their harms in the hopes of helping regulators design remedies for dark patterns.

Deactivate Account

All your saved homes and preferences will be permanently lost if you deactivate your account.

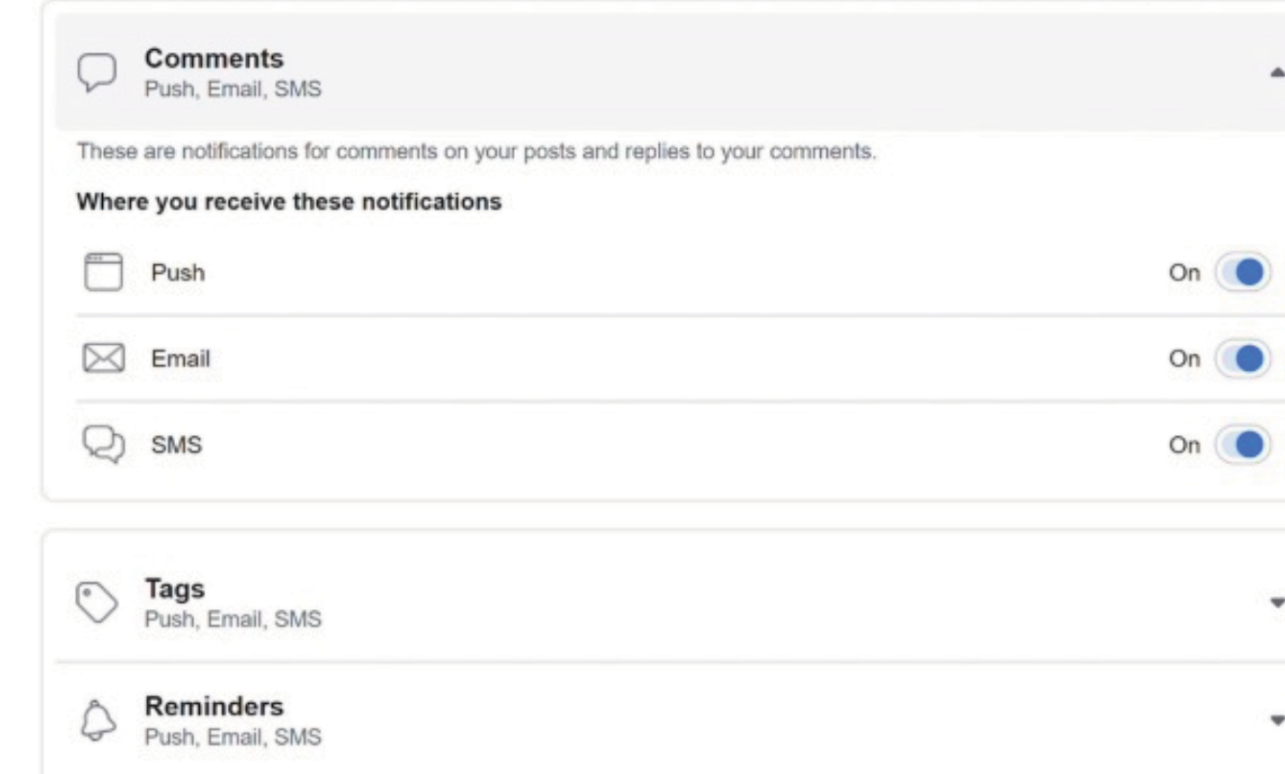
Receiving too many emails? Unsubscribe from our mailing list instead.

To change your email address, simply click "Edit email" next to your email address above.

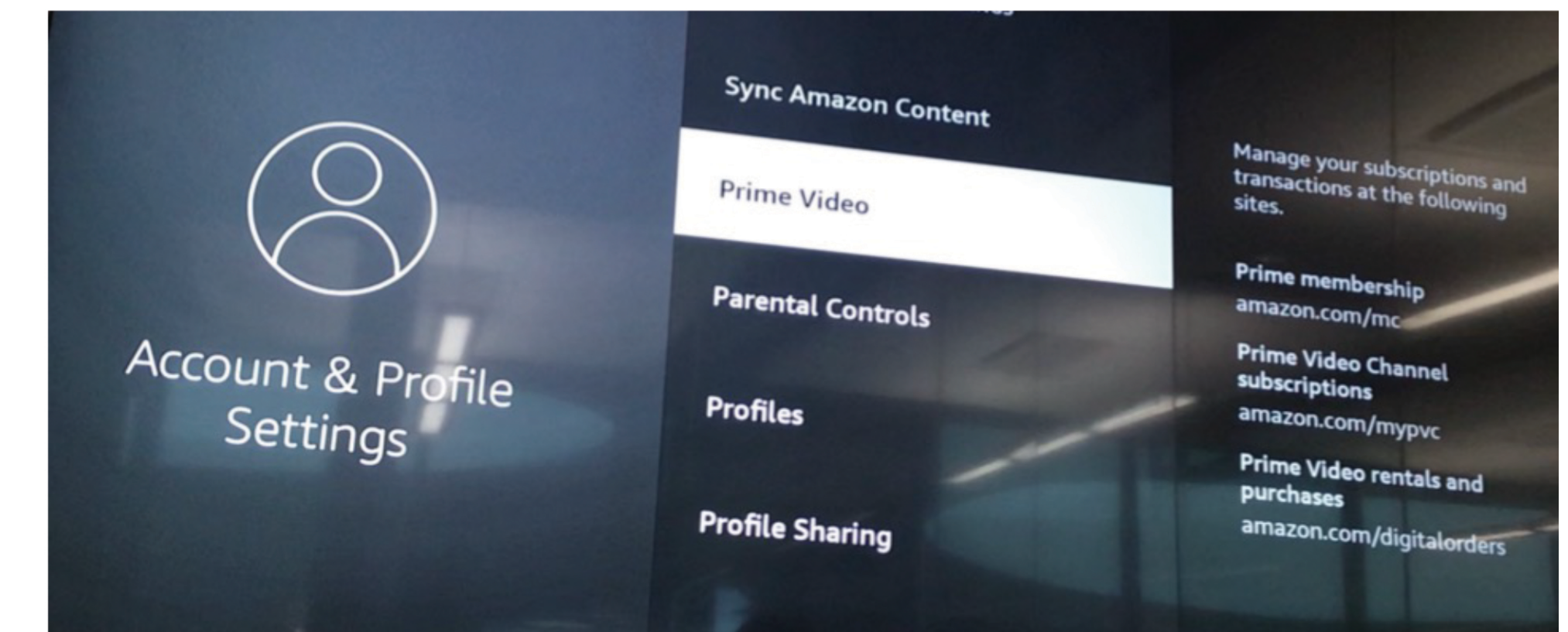


An example of the *unclear deactivation/deletion options* pattern in the Zillow mobile website. Zillow describes what will happen to bookmarks and preferences if the account is deactivated, but not other types of data. The scary warning is paired with a *visual precedence* dark pattern that highlights Zillow's preferred user action. Fig.13, CSCW'21.

What Notifications You Receive



An example of the *no bulk options for settings* pattern in the Facebook desktop website. Users are unable to mass-select settings for opting in or out and must expand each setting type before making individual selections in each category. This design appears on multiple settings pages. Fig.10, CSCW'21.



A photograph of the *settings detour to a different modality* pattern from Amazon's Fire TV interface; intriguing seeing as we were prompted to register for Prime on-device earlier in our interactions. From in-progress IoT study.

Ongoing

Measures of User Experience Asymmetry

With Christo Wilson (NU), and various (UW, ProperData).



Motivation: Empirical examinations of various dark patterns and similar designs towards an evidence-based understanding of design trade-offs, value systems, and market drivers of deceptive design.

Redress for Dark Patterns Beyond Consent

With Cristiana Santos (Utrecht U.) and Irene Kamara (Tilburg U.).



Motivation: Expand prior work beyond consent case study, with recommendations for courts seeing to issue compensation for DPs.

Triumphs & Failures of Dark Design Regulation

With Christo Wilson (NU).



Motivation: Critically analyze current dark pattern regulations, identify gaps, and suggest remedy recommendations for dark patterns writ large.

Precis presented at NPSW'22.

Understanding DPs in Home IoT Devices

With Monica Kowalczyk, Daniel Dubois (ProperData), and Christo Wilson (all NU).



Motivation: Explore dark pattern deployment in Internet-of-Things consumer electronics experiences and investigate impact of manufacturer, device purpose, and interaction modality on DPs. *Under submission.*

Published



Redress for Dark Pattern Privacy Harms? A Case Study on Consent Interactions, CSLaw'22

With Cristiana Santos (Utrecht U.) and Irene Kamara (Tilburg U.).

Motivation: Admin. agencies penalize the use of some dark patterns, but can dark patterns give rise to compensatory redress in civil courts?

Methods: Analyze dark patterns literature and EU civil court caselaw, structured around consent infringements of the GDPR as a case study.

Findings: Consent infringements (for nonmaterial damages) have yet to be compensated through civil redress, but opportunities exist.

Broader Impact: Cross-institutional, interdisciplinary analysis with recommendations for lawmakers and courts.

Exploring Deceptive Design Patterns in Voice Interfaces, EuroUSEC'22

With Kentrell Owens, Yoshi Kohno, and Franzi Roesner (all UW).

Motivation: With voice interfaces emerging as an increasingly popular medium, how might voice experiences deploy manipulative designs?

Methods: Speculative design fiction exercise to produce samples of voice dark patterns, and user survey investigating reactions to these DPs.

Findings: DPs may be exacerbated or ameliorated in voice modalities. Collective harms are under-addressed by individual harm perspectives.

Broader Impact: Initial exploration into voice dark patterns, with designer, researcher, and regulator recommendations.

A Comparative Study of Dark Patterns Across Web and Mobile Modalities, CSCW'21

With Amogh Pradeep (NU, ProperData) and Christo Wilson (NU).

Motivation: Many web services are multimodal and adjust UX designs accordingly; how do dark patterns compare across these media?

Methods: Manual content analysis of 315 video recordings of 105 popular web services across apps, mobile browsers, and desktop browsers.

Findings: Apps tend to contain more dark patterns, with this disparity having implications for inequitable experiences across modalities.

Broader Impact and Outreach: [Presented at FTC Dark Patterns Workshop 2021 & PrivacyCon22](#). Policy and practitioner recommendations.

