“Dark Patterns”
Manipulative UX Design and the Role of Regulation

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- 10+ years examining dark patterns in practice, as expert witness w/FTC & states
Agenda

● Defining “dark patterns” (& design patterns)
● Contexts: what do they target?
● How do they work? Cognitive biases, heuristics, and persuasive design
● Types of Dark Patterns
● Examples
● Discussion/Q&A
What is a design pattern?

“Design patterns are reusable/recurring components which designers use to solve common problems in user interface design.”

Sources: https://www.interaction-design.org/literature/topics/ui-design-patterns
https://www.checklist.design/elements/toggle
What is a “dark” pattern?

“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.”

- Brignull, Dark Patterns.org

“Techniques used to manipulate users to do things they would not otherwise do.”

- Luguri & Strahilevitz 2021
What is a “dark” pattern?

“Dark patterns are user interface design choices that benefit an online service by coercing, manipulating, or deceiving users into making unintended and potentially harmful decisions.”

- Mathur, Mayer, & Kshirsagar 2021


Animation source: Wiktor Buksza, 10Clouds
CPRA:
The California Privacy Rights Act (CPRA) defines dark patterns as: “[a] user interface designed or manipulated with the substantial effect of subverting or impairing user autonomy, decision-making, or choice, as further defined by regulation.”

Consent means any freely given, specific, informed and unambiguous indication of the consumer's wishes... “agreement obtained through use of dark patterns does not constitute consent.”

CCPA:
California Consumer Privacy Act recently updated regulations: “A business shall not use a method that is designed with the purpose or has the substantial effect of subverting or impairing a consumer’s choice to opt-out.”
Context: Where do we find them?

Three primary contexts:
- e-commerce/online shopping
- privacy/disclosure/consent
- gaming/gambling (attention & addiction)

Deceptive design patterns are typically found at decision points -- places where individuals make a decision or execute an action -- and subject to coercion or manipulation.
How do they work? Heuristics & Cognitive Biases

Cognitive Biases:
- Anchoring effect
- Confirmation bias
- Endowment effect

Heuristics:
- Availability heuristic
- Representativeness heuristic
Manipulative design in the physical world: supermarkets

How did we get here?
A/B Testing at Scale

“A/B testing is a methodology to compare two or more versions of an experience to see which one performs the best relative to some objective measure.”

<table>
<thead>
<tr>
<th>Deception</th>
<th>Coercion</th>
<th>Manipulation</th>
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<tr>
<td>Planting of false beliefs (form of manipulation); FTC: “a representation, omission, or practice is deceptive if it is likely to mislead consumers acting reasonably under the circumstances”</td>
<td>Coercion influences someone “by constraining their options, such that their only rational course of action is the one the coercer intends.”</td>
<td>Manipulation is hidden influence: “intentionally and covertly influencing [one's] decision-making, by targeting and exploiting their decision-making vulnerabilities.”</td>
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### Types of Dark Patterns:

*Dark Patterns at Scale*  
*(Mathur, et. al.)*

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<tr>
<td><strong>1. Asymmetric</strong></td>
<td><strong>2. Covert</strong></td>
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<td>Does the user interface emphasize particular choices more than others?</td>
<td>Does the interface steer the user to make certain purchases or choices without their knowledge?</td>
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<tr>
<td><strong>3. Restrictive</strong></td>
<td><strong>4. Hides Information</strong></td>
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<td>Does the user interface restrict the number of choices available to the user?</td>
<td>Does the user interface obscure information or delay the presentation of key information?</td>
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<td><strong>5. Deceptive</strong></td>
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<td>Does the interface use misleading statements, or omissions, to induce false beliefs?</td>
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Guiltshaming/Confirmshaming

You're using an ad blocker. We wondered if you might not?

We work hard to ensure our ads aren't a pain and they're how we're able to offer this splendid site for free. For Horace's sake, could you whitelist us?

[Turn Off Ad Blocker] I am a bad person

Get even lower rates

Access Secret Prices and get additional savings on select properties right to your Inbox.

Unlock Secret Prices now

By giving us your email address you agree to receive great deals and site alerts via email. You can unsubscribe at any time.

By continuing, you agree to the Terms & Conditions and Privacy Policy.

No thanks, I want to pay full price

I, - Do Not Sell My Personal Information

We, and our partners, use technologies to process personal information, including IP addresses, pseudonymous identifiers associated with cookies, and in some cases mobile ad IDs. This information is processed to personalize content based on your interests, run and optimize marketing campaigns, measure the performance of ads and content, and derive insights about the audiences who engage with ads and content. This data is an integral part of how we operate our site, make revenue to support our staff, and generate relevant content for our audience. You can learn more about our data collection and use practices in our Privacy Policy. If you wish to request that your personal information is not shared with third parties, please click on the below checkbox and confirm your selection. Please note that after your opt out request is processed, we may still collect your information in order to operate our site.

I want to make a 'Do Not Sell My Personal Information' request. Note: this action will make it harder to us to tailor content for you.

CONFIRM

Data Deletion | Data Access | Privacy Policy
Deceptive: False Urgency

**SELECT YOUR SUBSCRIPTION**

- Single site: $79.99 - $76.99
  - Temporary offer, only 1 left!
- 6 sites: $129.99 - $92.00
  - Temporary offer, only 3 left!
- 30 sites: $169.99

* A subscription license entitles you to 1 year of updates and support. Each installation of the plugin will require a license key.

**BURGUNDY ROOM, 1 KING BED, NON-SMOKING**

- Last booked for your dates 1 hour ago
- 1 king bed
- 390 feet²
- Air conditioning
- Attached bathroom
- Flat-screen TV

**I’ll reserve**

- Confirmation is immediate
- No registration required
- No booking or credit card fees!

*8 other people looked for your dates in the last 10 minutes*
Privacy: Coercive (& Confusing!?) Consent

Confusing interface + unreadable controls text = #darkpattern
FTC Action: Age of Learning, Inc. (ABCmouse)
CCPA Do Not Sell

Continue Sharing under California Law

Agree

Do not sell my personal information:

On this website or app

Please note that because we detected a Global Privacy Control signal from your browser, your setting for this website has been automatically set to Do Not Sell and cannot be changed.
Is this toggle on or off? In ____________, a state descriptor (the word Off) is used to identify the current state of the toggle (off). Unfortunately, this descriptor is ambiguous: because the word Off appears on the right of the switch and the toggle dot is on the left, users can also interpret the state of the toggle as on (that is, away from the label Off).
If using toggles, then make them clearer

Note: radio buttons may be a better choice than a toggle

CCPA Do Not Sell My Personal Information Right

May we sell your personal information?

No: do not sell my personal information

Yes: you may sell my personal information
Considerations for Lawmakers

- Is current FTC Section 5 authority enough to address dark patterns generally? Or is expanded authority necessary? For example, to cover “manipulative design.”
- Empirical considerations: how to measure, and by whom?
- Identifying the “dark” vs. the “gray”: what defines the line between permissible persuasion and manipulation/coercion?
- Are neutral designs a realistic and enforceable option, particularly at decision points, such as opt-ins/outs?
- What are the implication for Privacy by Design? How is success in privacy measured?
- How does the CPRA’s “effect” standard differ from a potential “intent” standard? Which standard is most measurable/enforceable?