

# SWE 632 - Design & Development of User Interfaces

Fall 2022

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George Mason  
University

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Dr. Kevin Moran

*Week 15:*

UI/UX Ethics





# Administrivia

- HW Assignment 5 - Due Thursday!
- Course Evaluations - Open Until *Sunday December 4th*
- Optional Final Exam Review Session: During Office Hours Thursday (12/1) & Tuesday (12/6)
  - Thursday - React Review
  - Tuesday - User Centered Design Review



# Today's Class

- Part I: Quick Lecture on UI/UX Ethics
- Part II: Begin Final Exam Review

# Ethics of UI Design







# UI Design Ethics

- What are our responsibilities to users as UI/UX Designers?



# Ethical UI/UX Considerations

- Existential Values in UX Design
- Ill or Misdirected Intent
- Benevolent Intent



# Existential Values

- What are your values as a designer?
  - A focus on facilitating user tasks
  - Broadening access to technology
  - Expressing truth to users and hiding misinformation
  - Refraining from collecting data
- How do those values align with the business directives of your company?
- How will you encode your values into your intent, and reconcile it with your business?





# Ill or Misdirected Intent

- Balancing a user's needs with business needs can be tricky
- Sometimes, business needs may be prioritized, leading to harmful or misdirected intent
- Prominent Example of this:
  - *Dark Patterns*

*1,818 Instances of Dark Patterns on Shopping websites, falling into 15 main types*

<https://webtransparency.cs.princeton.edu/dark-patterns/>

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## **Dark Patterns at Scale: Findings from a Crawl of 11K Shopping Websites**

ARUNESH MATHUR, Princeton University, USA  
GUNES ACAR, Princeton University, USA  
MICHAEL J. FRIEDMAN, Princeton University, USA  
ELENA LUCHERINI, Princeton University, USA  
JONATHAN MAYER, Princeton University, USA  
MARSHINI CHETTY, University of Chicago, USA  
ARVIND NARAYANAN, Princeton University, USA

Dark patterns are user interface design choices that benefit an online service by coercing, steering, or deceiving users into making unintended and potentially harmful decisions. We present automated techniques that enable experts to identify dark patterns on a large set of websites. Using these techniques, we study shopping websites, which often use dark patterns to influence users into making more purchases or disclosing more information than they would otherwise. Analyzing ~53K product pages from ~11K shopping websites, we discover 1,818 dark pattern instances, together representing 15 types and 7 broader categories. We examine these dark patterns for deceptive practices, and find 183 websites that engage in such practices. We also

cs.HCJ 20 Sep 2019

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# Dark Patterns: Sneaking



**TODAY'S SALE! - VALID ONLINE ONLY - \*Up To 45% Off + Free Local Delivery**

① Delivery Info ————— ② Billing Info ————— ③ Review & Place Order

**Need assistance? We are here to help! Call us any time at 877-638-3303**





[Log in](#) to apply your points or discounts and earn even more points towards future purchases

### SHOPPING CART

Item	Qty	Price	Subtotal
 <b>Dreaming of Tuscany</b> Selected: "As Shown" 2nd choice: similar as possible, same look and feel	1	\$52.99	\$52.99
 <b>Greeting Card Service</b> Selected: "STANDARD"	1	\$3.99	\$3.99



# Dark Patterns: Urgency

**JUSTFAB** Search products (by style, name, color,   My Account  Wish List (0)  0

My Boutique New Arrivals Sandal Shop Shoes Clothing Bags + Accessories Plus Size Looks What's Hot

Welcome to JustFab, Princeton!

NEW VIP MEMBER EXCLUSIVE

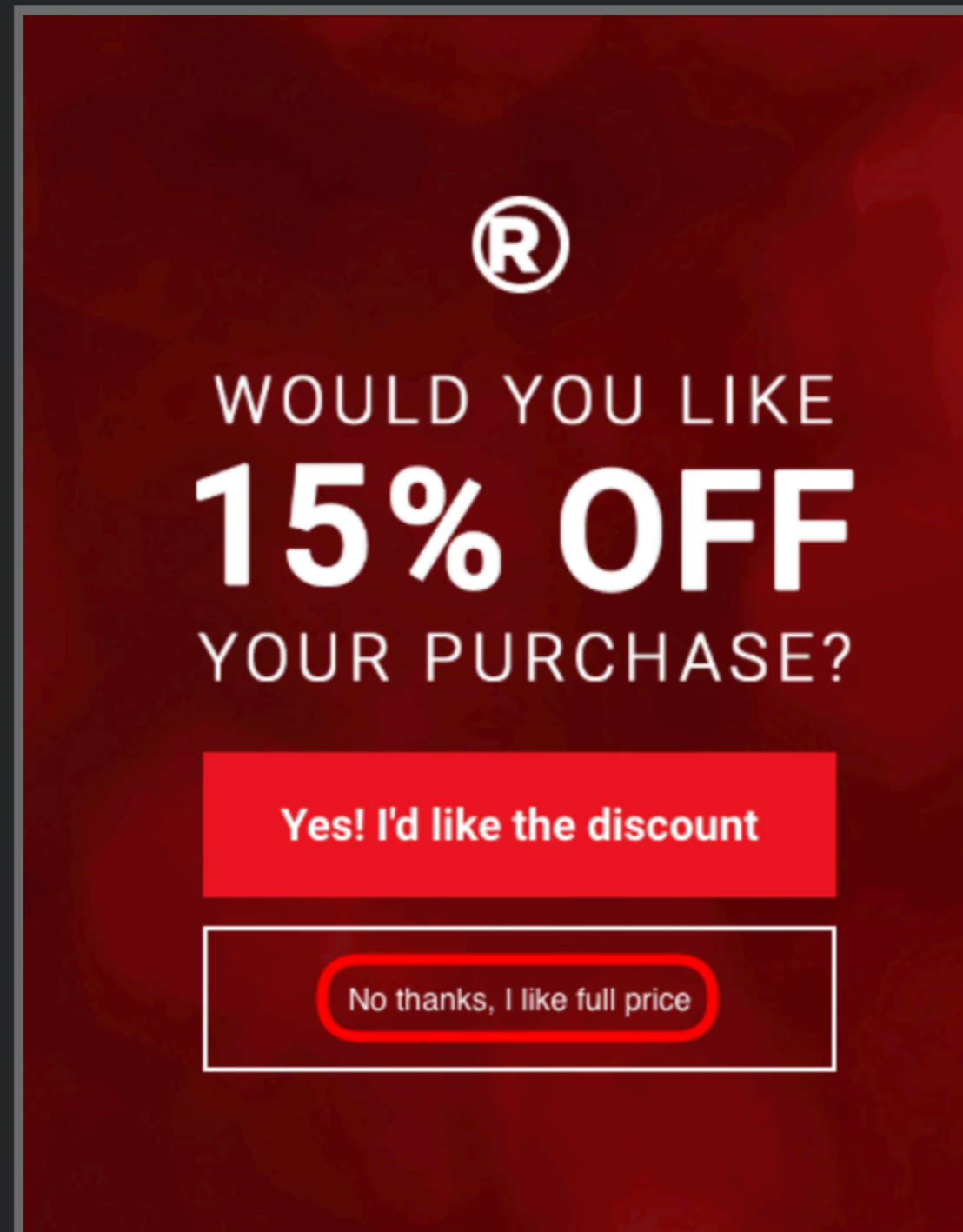
**2 STYLES FOR \$29.95**  
+ FREE SHIPPING

Your personal boutique is the works and will be here within 12 hours.  
But don't wait to shop, new season styles have already arrived!

OFFER ENDS IN  
**00:59:48**

SHOE FAVORITES BAG FAVORITES CLOTHING FAVORITES

# Dark Patterns: Misdirection



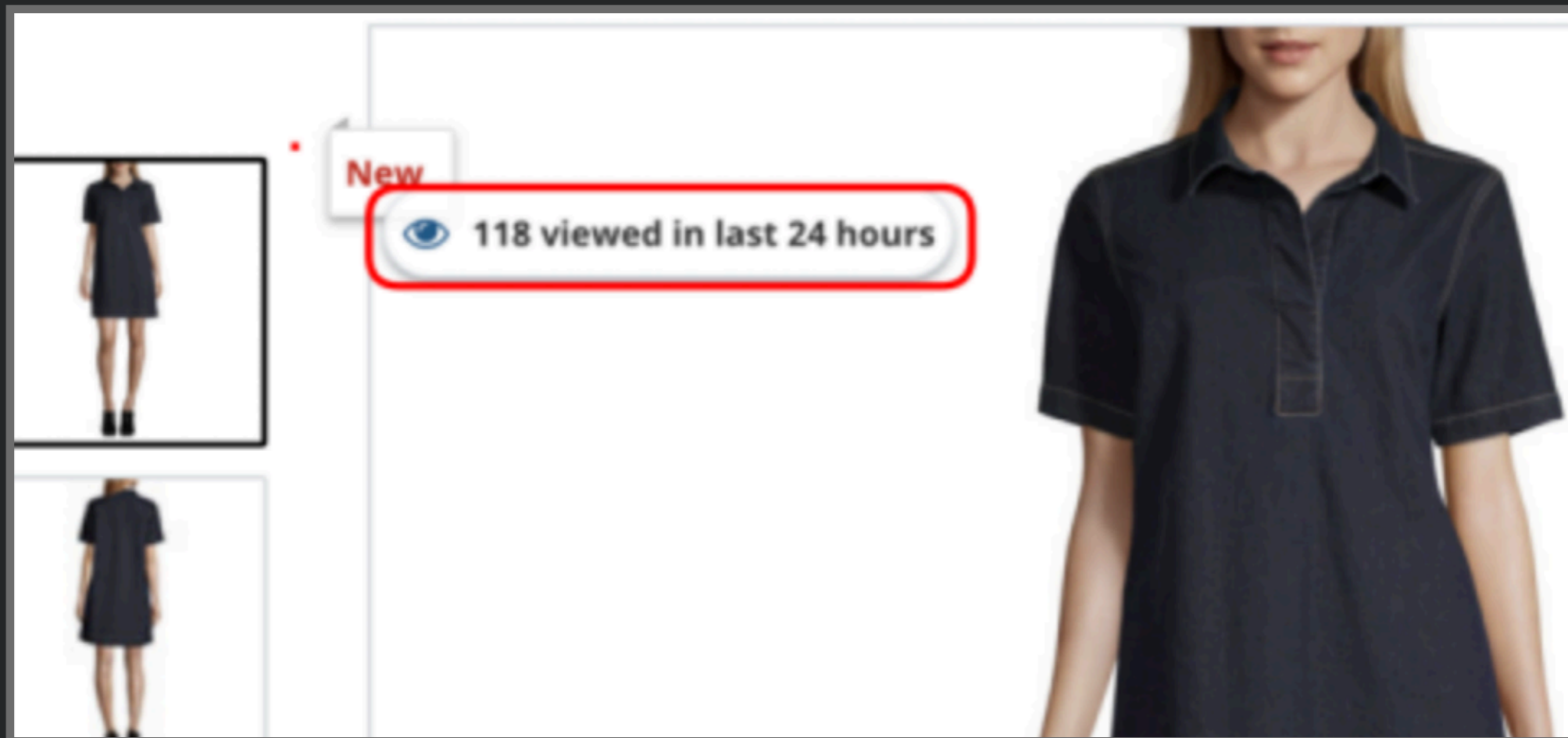
®

WOULD YOU LIKE  
**15% OFF**  
YOUR PURCHASE?

Yes! I'd like the discount

No thanks, I like full price


# Dark Patterns: Social Proof





# Dark Patterns: Scarcity

Men's Size:

6 (XL) 

**Only 3 left in stock**

**ADD TO SHOPPING BAG >**





# Dark Patterns: Obstruction

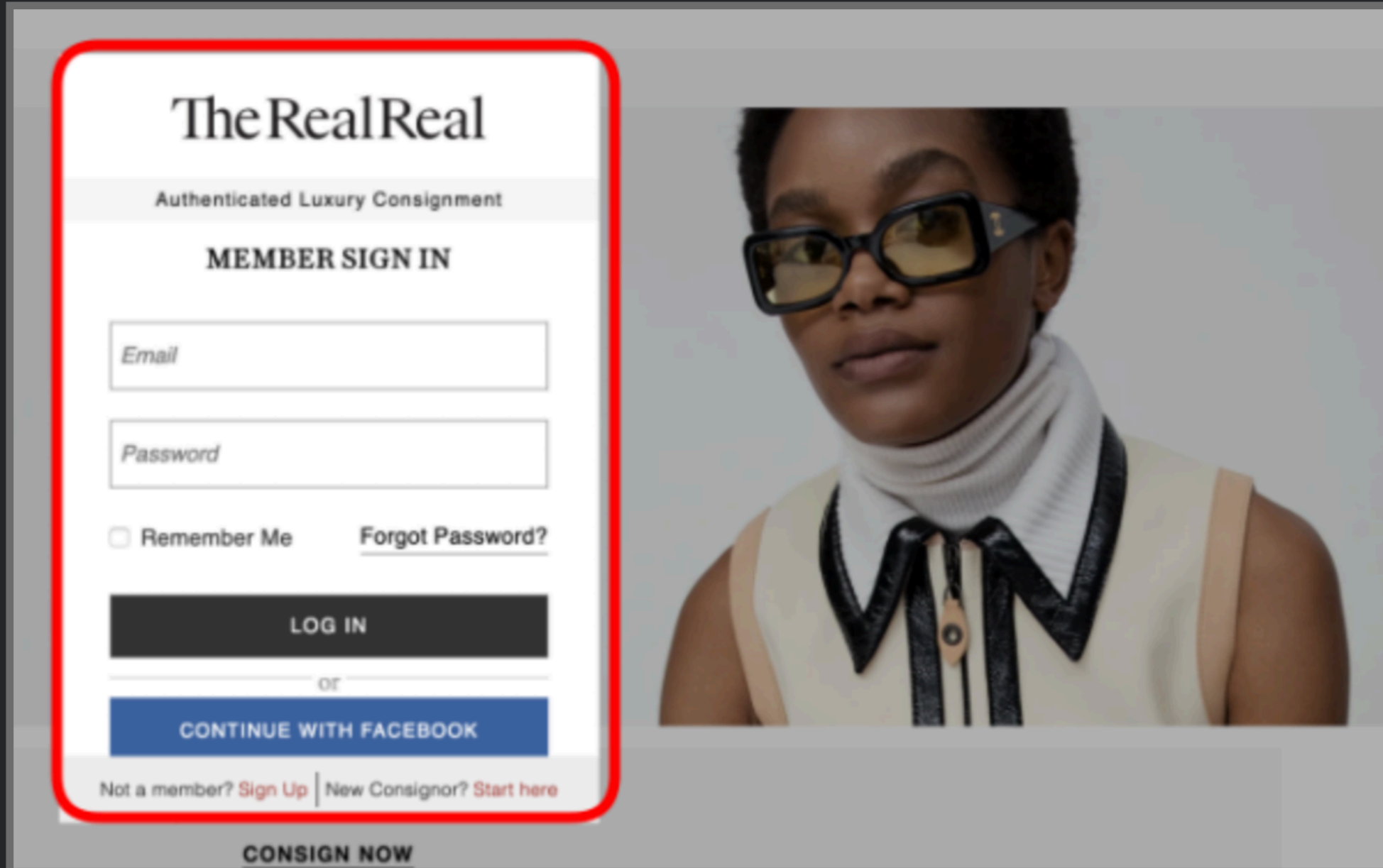
Add Promo Code		▼
Subtotal		\$39
Promo: 50% Off		-\$19.50
<hr/>		
<b>TOTAL</b>		<b>\$19.50</b>

**CONTINUE TO CHECKOUT**

everyone else, and get Xclusive access to limited edition styles.

- **No Commitment to Buy**  
Shop or 'Skip the Month'. Skip as many months as you want; it's always your choice. Cancel your membership any time by calling (855) SAVAGEX (open 24/7).
- **Earn VIP Member Credits**  
If you don't shop or 'Skip the Month' by the 5th of each month, your payment method will be charged \$49.95 on the 6th until you cancel your membership. That charge becomes a member credit you can use to shop or save.

# Dark Patterns: Forced Action





# Additional Reading

<https://arxiv.org/pdf/2101.04843.pdf>

## What Makes a Dark Pattern... Dark?

Design Attributes, Normative Considerations, and Measurement Methods

ARUNESH MATHUR, Princeton University

JONATHAN MAYER, Princeton University

MIHIR KSHIRSAGAR, Princeton University

There is a rapidly growing literature on dark patterns, user interface designs—typically related to shopping or privacy—that researchers deem problematic. Recent work has been predominantly descriptive, documenting and categorizing objectionable user interfaces. These contributions have been invaluable in highlighting specific designs for researchers and policymakers. But the current literature lacks a conceptual foundation: What makes a user interface a dark pattern? *Why* are certain designs problematic for users or society?

We review recent work on dark patterns and demonstrate that the literature does not reflect a singular concern or consistent definition, but rather, a set of thematically related considerations. Drawing from scholarship in psychology, economics, ethics, philosophy, and law, we articulate a set of normative perspectives for analyzing dark patterns and their effects on individuals and society. We then show how future research on dark patterns can go beyond subjective criticism of user interface designs and apply empirical methods grounded in normative perspectives.

### ACM Reference Format:

Arunesh Mathur, Jonathan Mayer, and Mihir Kshirsagar. 2021. What Makes a Dark Pattern... Dark?: Design Attributes, Normative Considerations, and Measurement Methods. In *CHI Conference on Human Factors in Computing Systems (CHI '21)*, May 8–13, 2021, Yokohama, Japan. ACM, New York, NY, USA, 27 pages. <https://doi.org/10.1145/3411764.3445610>

## 1 INTRODUCTION

Recent scholarship has called attention to dark patterns, user interface designs that researchers deem problematic. The preponderance of academic literature on dark patterns has curated collections of objectionable user interface designs [3, 21] and highlighted the frequency of dark patterns in specific contexts, such as privacy settings [4], online gaming [62], and online shopping [25]. Related work has also traced the lineage of dark patterns to discrete trends in



# Moving Forward: Benevolent Intent

- A Benevolent or “thoughtful” intent is what we should strive for
- This is where the user’s needs are considered above all else
- Business goals are balanced, but the designing for the user is a core value
- This can be difficult to achieve, but I sincerely believe this necessary.