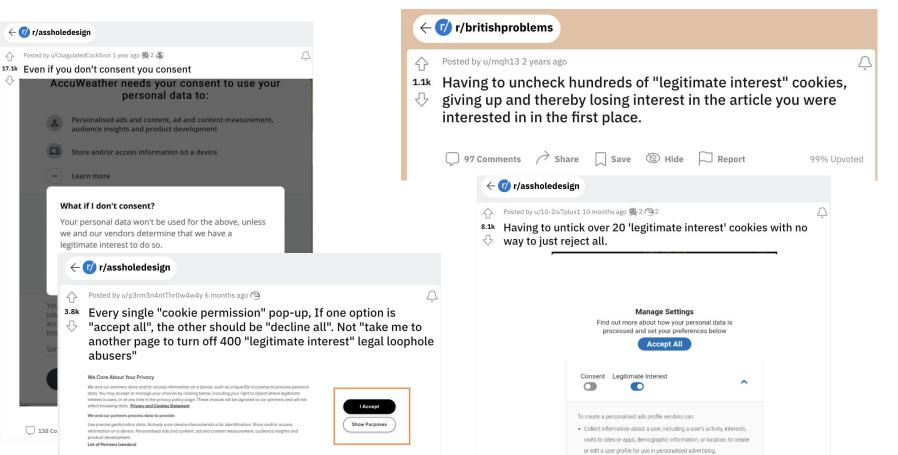
Investigating Deceptive Design in GDPR's Legitimate Interest

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Published at the ACM Conference on Human Factors in Computing Systems (CHI 2023)

Legitimate Interests... Are they being used legitimately?



Deceptive Design (Dark Patterns)

• User interfaces which influence users into making choices that benefit the service [1]

Before you continue...

OK

HuffPost is part of Oath. Oath and our partners need your consent to access your device and use your data (including location) to understand your interests, and provide and measure personalised ads. Oath will also provide you with personalised ads on partner products. Learn more. Select 'OK' to continue and allow Oath and our partners to use your data, or select 'Manage options' to view your choices.

Manage options

Select basic ads	
Ads can be shown to you based on the content you you're using, your approximate location, or your dev	
Object to Legitimate Interests	
Create a personalised ads profile	•
	show you personalised
	show you personalised
ads that are relevant to you. Object to Legitimate Interests	show you personalised
A profile can be built about you and your interests to ads that are relevant to you. Object to Legitimate Interests Select personalised ads Personalised ads can be shown to you based on a p	•

[1] Arvind Narayanan, Arunesh Mathur, Marshini Chetty, and Mihir Kshirsagar. 2020. Dark Patterns: Past, Present, and Future: The evolution of tricky user interfaces. *Queue 18*, 2 (2020), 67–92

Study 1: Web Crawl

Methods

- Built a crawler using Selenium for Python to crawl 10,000 top sites
- Qualitative analysis of flagged privacy notices

Contributions

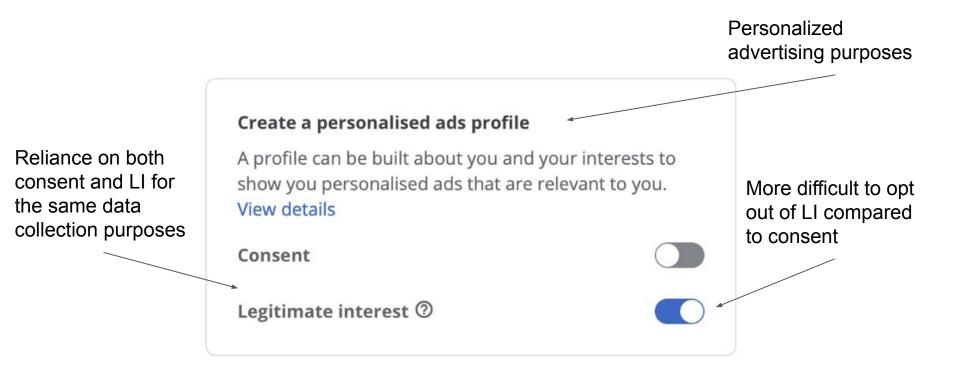
- Identified how legitimate interests are used in practice
 - Discussed the legal implications of these practices

Web Crawl: Results

- 474/10,000 (4.74%) of sites mention "Legitimate interest(s)" (LI)
 - Of this, 13.7% don't specify their legitimate interest purposes
 - 31% of sites mentioning their LIs rely on both consent and LI for the same purposes

- IAB Europe's Transparency and Consent Framework (TCF) has major impacts on how LIs are applied
- Deceptive practices reign in legitimate interest sections

Common Problematic Elements



Study 2: User Survey of Legitimate Interest Practices

Methods:

- Surveyed 399 participants
- 4-part survey:
 - Privacy background questions
 - Vignette section
 - General Legitimate Interest questions
 - Respondent demographics questionnaire

Contributions:

- Investigated how respondents evaluated these practices
 - What respondents think should count as a LI, who they think LIs benefit

User Survey: Results

How comfortable are you with sharing data for the following purposes, without your consent?

Legitimate Interest Purpose	Mean	Median
Personalized content and measurement	2.07	2
Personalized ads and measurement	1.80	2
Analytics	2.42	2
Develop and improve products	2.85	3
Future innovations	2.47	2
Archiving data	2.80	3
Security and debugging	3.17	3
Fraud and law enforcement	3.03	3

Likert scale: 1 = Not comfortable at all; 5 = Very comfortable

User Survey: Results

Could these be potential legitimate interests?

Purpose	Mean Score	Median Score
Functional, strictly necessary	3.9	4
UX improvement	3.02	3
Sharing with third parties	1.7	1

Likert scale: 1 = Not comfortable at all; 5 = Very comfortable

When do you think your data is being collected?

Select basic ads

Ads can be shown to you based on the content you're viewing, the app you're using, your approximate location, or your device type. View details

Consent

Legitimate interest ⑦



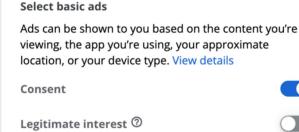
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Consent

Legitimate interest ⑦





Select basic ads

Ads can be shown to you based on the content you're viewing, the app you're using, your approximate location, or your device type. View details

Consent

Legitimate interest 🕐

When do respondents think their data is being collected?

Select basic ads

Ads can be shown to you based on the content you're viewing, the app you're using, your approximate location, or your device type. View details

Consent

Legitimate interest ⑦



When both toggles are active: 355/399

Select basic ads

Ads can be shown to you based on the content you're viewing, the app you're using, your approximate location, or your device type. View details

Consent

Legitimate interest ⑦

When only consent is active: 249/399

Select basic ads

Ads can be shown to you based on the content you're viewing, the app you're using, your approximate location, or your device type. View details

Consent

Legitimate interest ⑦



When only LI is active: 280/399

Select basic ads

Ads can be shown to you based on the content you're viewing, the app you're using, your approximate location, or your device type. View details

Consent

Legitimate interest 🗇

No toggles active: 56/399

User Survey: Results

- User acceptance of a LI is impacted by whom users believe the data benefits
 - Most respondents believe LIs are meant to benefit the service provider and third party vendors

User Group	Count
You (the user)	64
The company offering the service (service provider)	367
3rd party vendors (e.g., advertisers)	255
Society	46
Other users of the service	40
Unsure	26

Takeaways

- Legitimate interests are exploited through deceptive practices
 - There needs to be more transparency to users about the legitimate interest legal basis
 - Focus on deceptive designs beyond the UI
- Respondents are not fully aware of data practices
 - Users should have a bigger role in data protection discussions

Investigating Deceptive Design in GDPR's Legitimate Interest

- Lack of transparency disclosing Legitimate Interests
- Legitimate Interests are exploited through deceptive practices
- Respondents disagree with how Legitimate Interests are used in practice

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