

From Dark Patterns to Fair Patterns?

Usable Taxonomy to Contribute Solving the Issue with Countermeasures

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*Fair*patterns
by “amurabi

Dark patterns

Dark* patterns

The term dark pattern was first used by Harry Brignull (UX expert and PhD in Cognitive Science) in 2010 referring to:

"Tricks used in websites and apps that make you do things you didn't mean to ».

*A rich literature followed to define dark patterns.

Another term is now commonly used in the literature: Deceptive design / Deceptive patterns. The goal is to avoid any misunderstanding as to associating « dark » to something negative. We fully adhere to this precaution. As “Dark Patterns” has been used in legislation, we will for now continue to use it, for legal precision purposes.

What is the scale of the problem?

There are currently **hundreds of scientific articles** on dark patterns, many researchers have evidenced their high prevalence, 5 taxonomies have been created by regulators:

- * European Data Protection Board (2023)
- * Federal Trade Commission (2022)
- * OECD (2022)
- * CNIL (2019)
- * Norwegian Consumer Council (2018)

97%

of Europeans' preferred e-commerce sites **contain at least 1 dark pattern**. Source : [European Commission, 2022](#)

40%

Focusing on only 3 types of dark patterns relating to consumer protection, **nearly 40% of e-retail shops** contain a dark pattern. Source : [European Commission 2023](#)

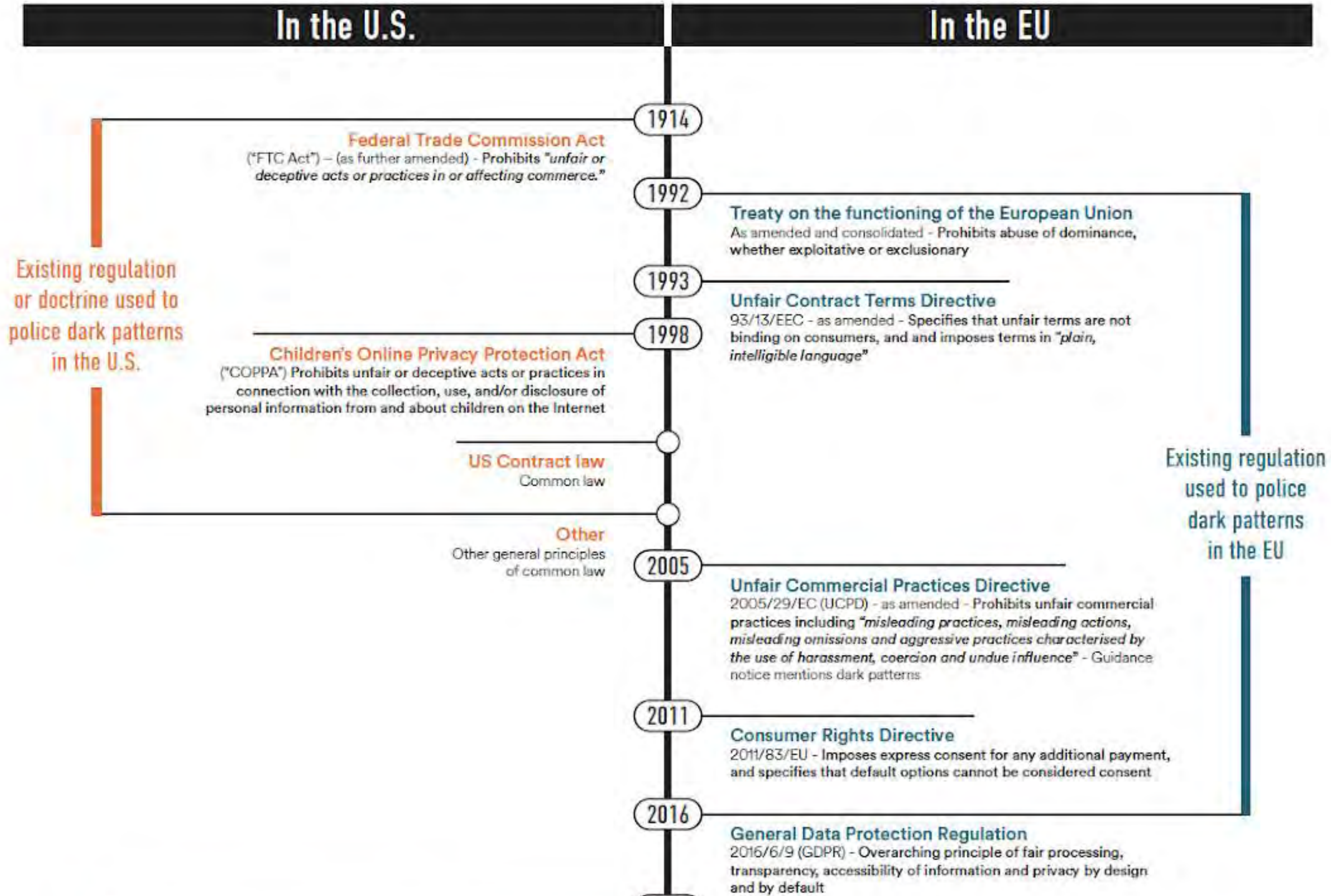
1818

Mathur et. al identified **1818 dark patterns** in 11,000 US e-commerce sites, and **22 « providers of dark patterns »** Source : [Dark Patterns at scale](#)

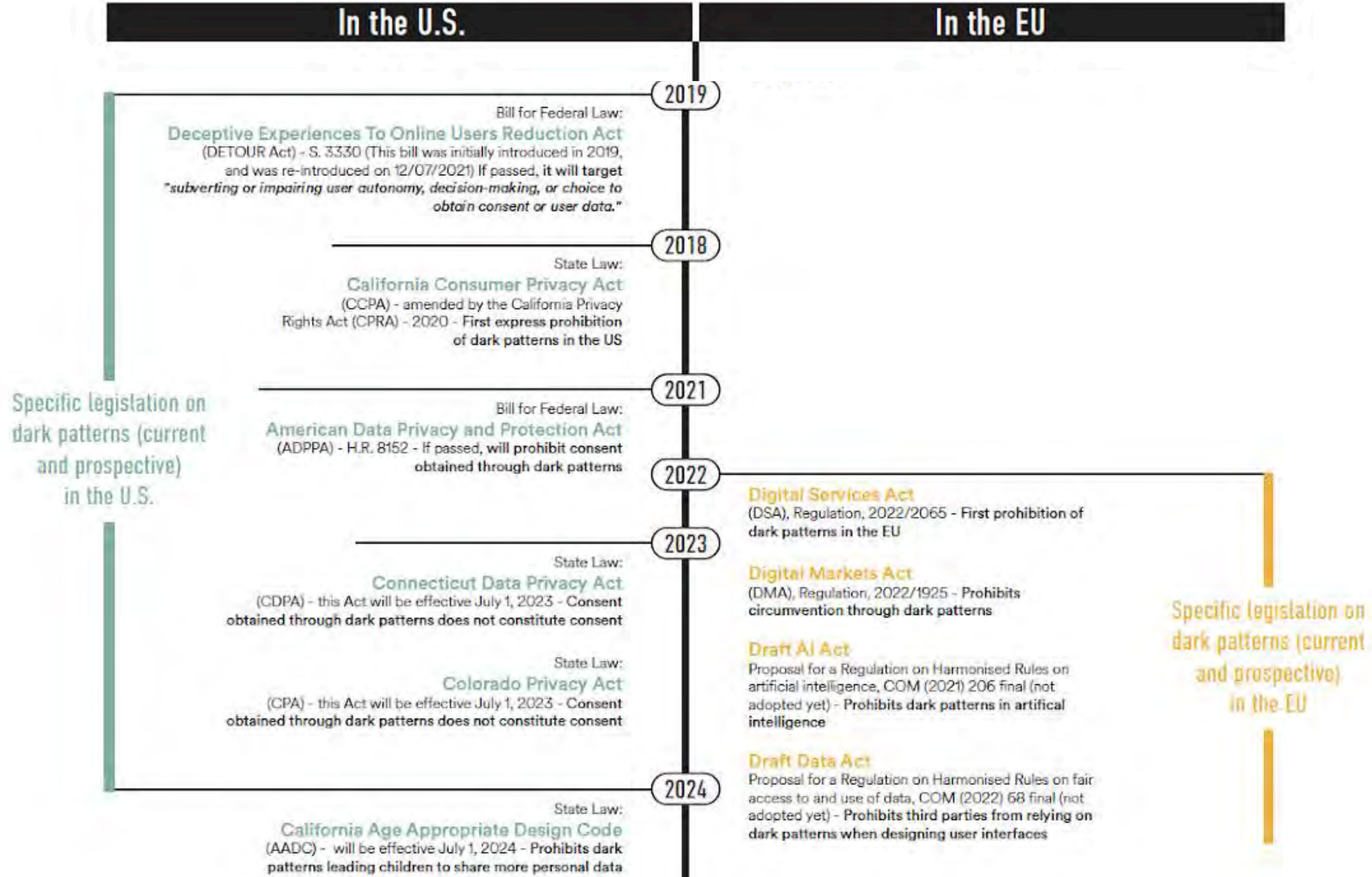
What are the harms caused by dark patterns?



Evolution of legislation policing dark patterns



Evolution of legislation policing dark patterns



Existing taxonomies

An extensive literature exists to define and categorize Dark Patterns. During our state of the art, we selected 16 taxonomies from the most recent or most acknowledged publications.

- Bongard-Blanchy, K., Rossi, A., Rivas, S., Doublet, S., Koenig, V., & Lenzini, G. (2021, June). "I am Definitely Manipulated, Even When I am Aware of it. It's Ridiculous!"-Dark Patterns from the End-User Perspective. In *Designing Interactive Systems Conference 2021* (pp. 763-776).
- Bösch et al, 2016
- Brignull H (2010) Types of deceptive design. <https://www.deceptive.design/>. Accessed 01 Dec 2022
- Competition & Market Authority, 2022
- CNIL (2019). *IP Report: Shaping Choices in the Digital World, From dark patterns to data protection: the influence of UX/UI design on user empowerment*. Retrieved December 1, 2022, from https://linc.cnil.fr/sites/default/files/atoms/files/cnil_ip_report_06_shaping_choices_in_the_digital_world.pdf
- European Commission, 2022
- EDPB (2022). *Guidelines 3/2022 on Dark patterns in social media platform interfaces: How to recognise and avoid them*. Retrieved December 1, 2022, from https://edpb.europa.eu/our-work-tools/documents/public-consultations/2022/guidelines-32022-dark-patterns-social-media_en
- FTC, 2022
- Gray, C. M., Kou, Y., Battles, B., Hoggatt, J., & Toombs, A. L. (2018, April). The dark (patterns) side of UX design. In *Proceedings of the 2018 CHI conference on human factors in computing systems* (pp. 1-14).
- Jarovsky, L. (2022). Dark Patterns in Personal Data Collection: Definition, Taxonomy and Lawfulness. *Taxonomy and Lawfulness* (March 1, 2022).
- Liguri, 2021
- Norwegian Consumer Council (Forbrukerrådet). Forbrukerrådet. (2018). *Deceived by design: How tech companies use dark patterns to discourage us from exercising our rights to privacy*. Retrieved December 1, 2022, from <https://fil.forbrukerradet.no/wp-content/uploads/2018/06/2018-06-27-deceived-by-design-final.pdf>
- Princeton, 2021

Existing taxonomies

- The first wave of taxonomies was created to **identify the problem.**
- The second wave focused on **prevalence and identifying the basis for regulation.**
- The third wave aimed at **assessing the harm to consumers.**

Identifying gaps

- Existing taxonomies are often **overlapping but never extensive**
- They are **focusing on a given area of application** (privacy, regulation, e-commerce, etc.).
- They are analyzing **existing** dark patterns (not the potential future ones).
- Taxonomies are **fairly complex and not very usable by practitioners** without investing significant time to have a complete overview of the various categories of dark patterns.
- Criteria are not always **linked to the underlying cognitive biases**.
- Overall, these taxonomies have been **problem-focused**.

We therefore propose a 4th wave: solution-oriented taxonomy

Towards a new, solution-oriented taxonomy

Solution-oriented taxonomy

Our taxonomy aims at being:

1. **Easily usable** : accessible to all stakeholders necessary to solve the problem: designers, developers, digital marketers, lawyers, researchers, regulatory bodies and judges, and easy to memorize;
2. **Easily actionable** : each dark pattern has one or several generic (non-branded) example(s), for accessibility and training purposes, and each has a corresponding (non-branded) fair pattern as a remedy;
3. **Sustainable and future-proof** : anchored on cognitive biases to be more robust against new forms of dark patterns which will appear, encompassing wider categories not strictly based on types of design or types of language

OUR METHODOLOGY

Mapping of the existing

And grouping similar items



Analysing the groups

Analysing the groups created based on 3 criteria: consistency (ensure that they group criteria in an homogeneous way), distinctiveness (ensure that every group is different than the others), macro level (ensure that the new category is applicable to several area of application and future-proof)



Identifying the risks

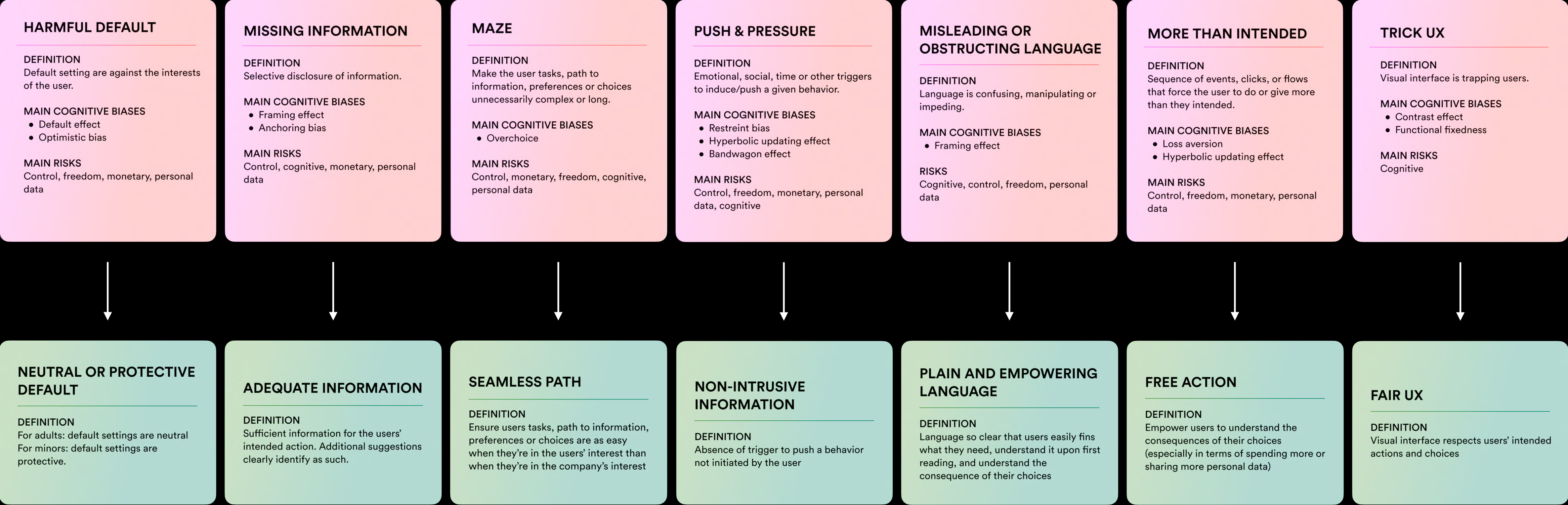
Identify the risks for each pattern, associate the cognitive biases involved and defining the new categories

CATEGORY	CHAMPION / DEFAULT	HIDDEN INFORMATION	MORE THAN ONE INTEREST	TRICK	PRESSURE	WELL / AGAIN OR DESTRUCTING LANGUAGE	TRICK OR
TYPES	Misleading / harmful defaults Default settings Misleading / harmful defaults Default settings	Hidden information Hidden information Hidden information Hidden information	More than one interest More than one interest More than one interest More than one interest	Complex action / get away Complex action / get away Complex action / get away Complex action / get away	Pressure Pressure Pressure Pressure	Confusing/manipulating language Confusing/manipulating language Confusing/manipulating language Confusing/manipulating language	Tricked or hacked UX Tricked or hacked UX Tricked or hacked UX Tricked or hacked UX
DEFINITION	Systemic use of information to influence user behavior in a way that is not in their best interest	Systemic use of information to influence user behavior in a way that is not in their best interest	Systemic use of information to influence user behavior in a way that is not in their best interest	Systemic use of information to influence user behavior in a way that is not in their best interest	Systemic use of information to influence user behavior in a way that is not in their best interest	Systemic use of information to influence user behavior in a way that is not in their best interest	Systemic use of information to influence user behavior in a way that is not in their best interest
FAIR PATTERN	PROTECTIVE (OR NEUTRAL) DEFAULTS	ADEQUATE INFORMATION	FREE ACTION	STRESSLESS (OR SILENT) INTERACTION	PROUD / NO PROUD OR PROUD INTERACTION	UNUSUAL EMPLOYMENT LANGUAGE	TRICK OR
COGNITIVE BIASES	Default effect Default effect Default effect Default effect	Tricking effect Tricking effect Tricking effect Tricking effect	Choice effect Choice effect Choice effect Choice effect	Choice effect Choice effect Choice effect Choice effect	Choice effect Choice effect Choice effect Choice effect	Choice effect Choice effect Choice effect Choice effect	Choice effect Choice effect Choice effect Choice effect

Defining corresponding fair patterns

Defining corresponding fair patterns, based on literature review and our experience of user tested projects

OUR USABLE TAXONOMY WITH COUNTERMEASURES: FAIR PATTERNS



Correspondance table

In this new taxonomy, all DP from the 16 taxonomies are included and overlapping is avoided.

		DISTORTED UX	HARMFUL DEFAULT	MAZE	MISLEADING OR OBSTRUCTING LANGUAGE	MISSING INFORMATION	MORE THAN INTENDED	PUSH & PRESSURE
BONGARD-BLANCHY, K.	Auto play						•	
	Bundled consent						•	
	Confirmshaming							•
	False hierarchy	•				•		
	Forced consent						•	
	Hidden information	•				•		
	High demand message							•
	Limited time message							•
	Loss gain framing					•		
	Preselection							
	Trick questions		•		•			
BÖSCH	Address book leeching						•	
	Bad defaults		•					
	Forced registration						•	
	Hidden legalese stipulations				•			
	Immortal accounts	•		•		•		
	Privacy Zuckering						•	
	Shadow user profiles						•	
BRIGNULL, H.	Bait & switch	•					•	
	Confirmshaming							•
	Disguised ads	•						
	Forced continuity			•		•		
	Friend spam						•	
	Hidden costs					•		
	Misdirection	•			•			
	Price comparison prevention					•		
	Privacy zuckering						•	
	Roach motel			•				
	Sneak into basket					•	•	
	Trick questions	•			•			
CNIL	Attention diversion	•						
	Bait and change	•					•	
	Blaming the individual							•
	Camouflaged advertising	•						
	Chameleon strategy	•				•		
	Comparison obfuscation	•			•	•		
	Complicate			•				
	Default sharing		•				•	
	Enjoy							•
	False continuity						•	
	Impenetrable wall						•	
	Improving the experience	•					•	
	Just between you and us						•	
	Last minute consent							
	Lure		•		•	•		
	Making it fastidious to adjust privacy settings							
	Obfuscating settings			•				
	Repetitive incentive			•				•
	Safety blackmail						•	
	Seduce							•
	Trick question				•			•
	Wrong signal	•						•
EU COMMISSION	Forced Action						•	
	Interface Interference	•						
	Nagging	•						•
	Obstruction			•				
	Sneaking					•	•	
	Social Proof							•
	Urgency							•
EUROPEAN DATA PROTECTION BOARD	Fickle - decontextualizing			•				
	Fickle - lacking hierarchy			•				
	Hindering - dead end			•				
	Hindering - longer than necessary			•				
	Hindering - misleading information			•				
	Left in the dark - ambiguous wording or information				•			
	Left in the dark - conflicting information				•			
	Left in the dark - language discontinuity				•			
	Overloading - continuous prompting						•	
	Overloading - privacy maze			•				•
	Overloading - too many options			•				
	Skipping - deceptive snugness		•					
	Skipping - look over there						•	
	Stirring - emotional steering							•
	Stirring - hidden in plain sight	•						

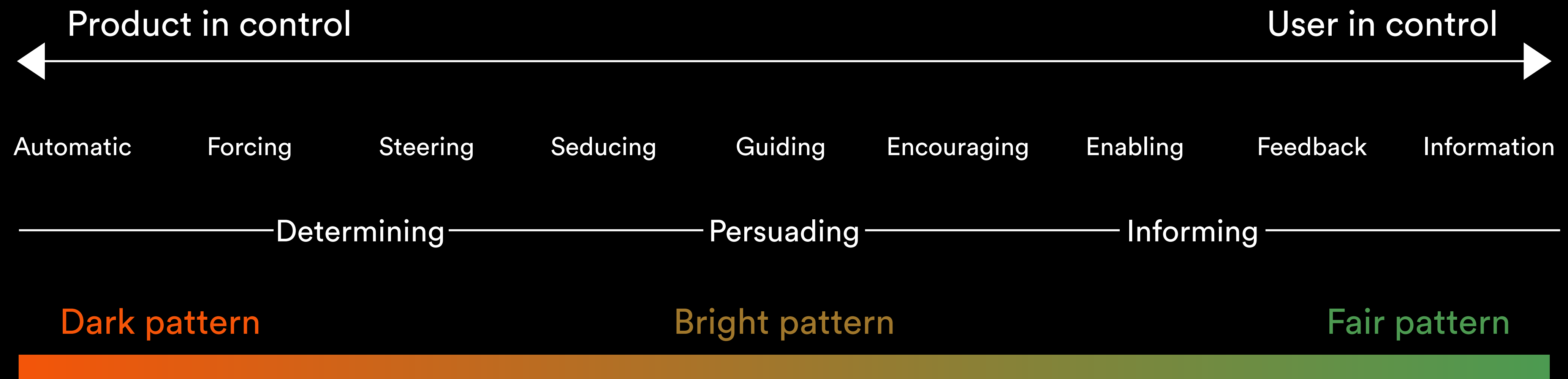
Correspondance table

In this new taxonomy, all DP from the 16 taxonomies are included and overlapping is avoided.



From Dark patterns to *Fair* patterns

From dark patterns to *fair* patterns



Distribution of control between the user and the product when designing for behavior change
(Adapted from Zachrisson et al., 2012, p.363)

Rationale to creating fair patterns

Shifting away from consent or nudging users towards privacy- or consumer-friendly options (i.e. influencing the decisions of individuals or groups towards good choices (as judged by themselves) through minor changes in the choice environment without compromising freedom of choice, Thaler & Sunstein, 2009) means giving up on humans' capacity to make their own informed choices online. Given the ever increasing prevalence of digital in our lives, it seems all the more dangerous.

As “active optimists”, we’d rather bet on people’s intelligence, once “equipped” with the right knowledge and tools to freely decide for themselves. Building on “light patterns”, we also rely on Jarovsky’s “Autonomy Preserving Protective Measures” (APPMs), and her definition of autonomy:

« *The ability of an individual to independently*

- ***think (understand, reflect),***
- ***decide (critically evaluate) and***
- ***choose (act, implement choice)***

according to his own preferences and values. »

Fair patterns:
Interfaces that empower users to make their
own, enlightened, free choices

- Fair as **opposed to deceiving and misleading dark patterns**, but equipping users with the right knowledge and tools, to **preserve their autonomy** which is a central human attribute;
- Fair because they **empower users to make their own choices**, while avoiding paternalism (inspired by Jarovsky's APPM's);
- Fair because users are « **equipped** » **with context and provided with actual choice**;
- Fair to **foster sustainability of digital economy** (inspired by the *fairness by design duty proposed by the CMA*)

Fair pattern Checklist

Goals pursued	Criteria
Triggering System 2 Avoiding consent fatigue namely due to perception of lack of control	<ul style="list-style-type: none">- Enabling action, i.e. explaining consequences of choices- Short-term boost: explaining legal concepts in plain language, while keeping the technical term for longer term learning curve, quiz and rewards for learning more- Long-term boost: empowering users to measure their learning progress in not just identifying dark patterns but also resisting them and taking action (eg reporting dark patterns to halls of shame, regulators or NGO's to prompt class actions)- Enhancing perception of control: meaningful control tools by users (not just perception of control) eg dashboards
Limiting cognitive effort in System 2	<ul style="list-style-type: none">• - Succinct “dosis” of information at the right time of the journey• - Clearly distinguishing between what’s mandatory and optional• - Limited mental effort to make choices according to users’ preferences• eg the call-to-action button on the right-hand-side is the one that corresponds to the action that the user initiated herself/himself• - Formatting:<ul style="list-style-type: none">◦ minimum font size for minimum cognitive effort and ease of reading◦ sufficient contrast◦ sufficient spacing◦ icons to support understanding (but not if ends up overloading the page)
Fighting salience bias (sensitivity to frames).	<ul style="list-style-type: none">- balanced information, ie presenting options in a strictly equivalent way (button size, colors etc)

Fair pattern Checklist

Goals pursued	Criteria
Fighting status quo bias	<ul style="list-style-type: none">- Neutral defaults (or protective defaults for vulnerable users eg minors)- Periodic reminders to adjust choices, and warnings
Correcting information asymmetry	<ul style="list-style-type: none">- Providing context and guidance- Plain, succinct and empowering language: language is so clear that users easily find what they need, understand it upon first reading, and understand the consequences of their choice
Creating a learning curve	<ul style="list-style-type: none">- Relevant and educative information- Short-term and long-term boosts- Transparency in format and goals- User tested, in particular for cognitive load and autonomy-enhancement
Enhancing ability to choose	<ul style="list-style-type: none">- Easily accessible- Actual choice exists- Clarity- Meaningful information: providing context and stakes, including long-term consequences,- Timely information: the right information at the right time of the user journey

What it looks like in practice

HARMFUL DEFAULT

- ☒ I would like to sign up, I agree to the Terms & Conditions, to receive promotional offers and emails from our company and its partners.

Sign up


NEUTRAL OR PROTECTIVE DEFAULT

Signing up

Mandatory if you'd like to sign up:

- ☐ I have read and agree to the Terms and Conditions. 

Optional:

- ☐ I would like to receive promotional offers from the company (maximum once a week).
- ☐ I would like to receive promotional offers from the **company's partners**. 

CANCEL

SIGN UP

MISSING INFORMATION

Start your **FREE** 14-day trial!

Card number

Expiration Date

CVV

Start Free Trial

ADEQUATE INFORMATION

We offer a free 14-day trial - no credit card details needed.

Free 14 days

☒

In 10 days, we will send you an email asking you if you'd like to subscribe to our service. If you do, your payment details will be required then.

START FREE TRIAL

NO, THANK YOU

MAZE

SEAMLESS PATH

Privacy Notice - We collect data subject's personal data based on our legitimate interest and may share said personal data with third parties. Any information you provide to us will either be emailed directly to us or may be stored on a secure server located near Dublin within the Republic of Ireland. We use a trusted third party website and hosting provider (Cleverbox) to facilitate the running and management of this website. Cleverbox meet high data protection and security standards and are bound by contract to keep any information they process on our behalf confidential. Any data that may be collected through this website that Cleverbox process, is kept secure and only processed in the manner we instruct them to. Cleverbox cannot access, provide, rectify or delete any data that they store on our behalf without permission. We do not rent, sell or share personal information about you with other people or non-affiliated companies. We will use all reasonable efforts to ensure that your personal data is not disclosed to regional/national institutions and authorities, unless required by law or other regulations. Unfortunately, the transmission of information via the internet is not completely secure. Although we will do our best to protect your personal data, we cannot guarantee the security of your data transmitted to our site; any transmission is at your own risk. Once we have received your information, we will use strict procedures and security features to try to prevent unauthorised access.

Ok

Which personal data do we collect and why?

Reading time:
2 minutes

What is personal data?

Any information that can identify you directly, like your name or email address, or indirectly, like your IP address.

Why should you care?

Privacy is a fundamental right, it is legitimate to protect your privacy especially online.

What can you do about it?

You can agree or disagree for each type of use (called a "purpose" of "processing" under GDPR). The only exception is when we have a "legitimate interest" i.e. it is necessary for us to provide our services.


Your name and email address	To manage your account	Indispensable for us to provide you the service ⓘ
	To send you new offers	<input type="checkbox"/> OFF
	To enable <u>our partners</u> to send your their new offers	<input type="checkbox"/> OFF
Your telephone number	To deliver your orders	Indispensable for us to provide you the service ⓘ
	To manage your account	<input type="checkbox"/> OFF
	To send you our new offers	<input type="checkbox"/> OFF

DISCARD CHANGES


SAVE PREFERENCES

If you would like to learn more, [read the full Privacy Policy](#). You have numerous rights regarding your personal data - [click here to exercise them](#).

PUSH & PRESSURE




Bike XXX
\$199

 Only **2 items**
left in stock!

Add to cart

NON-INTRUSIVE INFORMATION

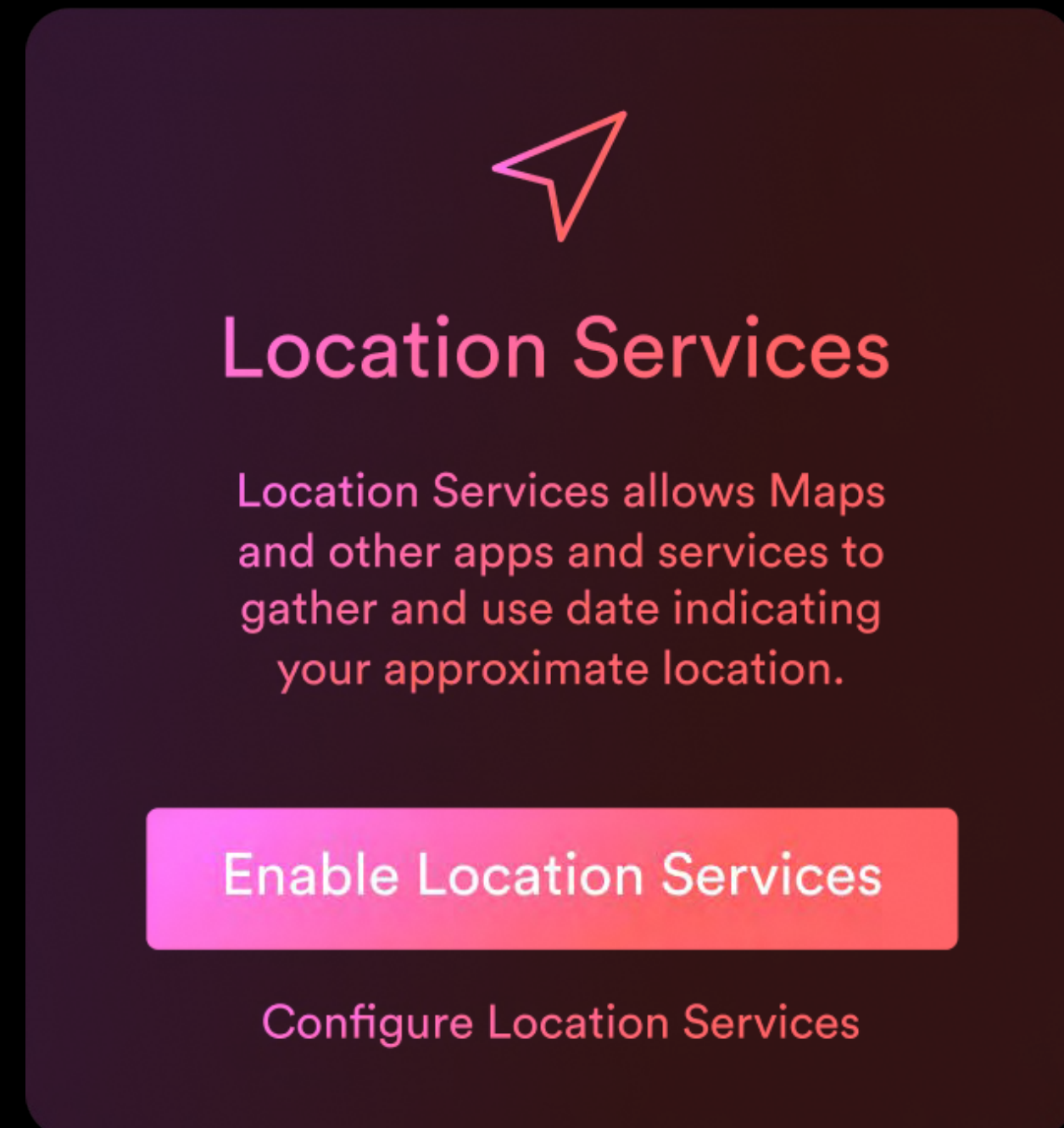


Bike XXX
\$199

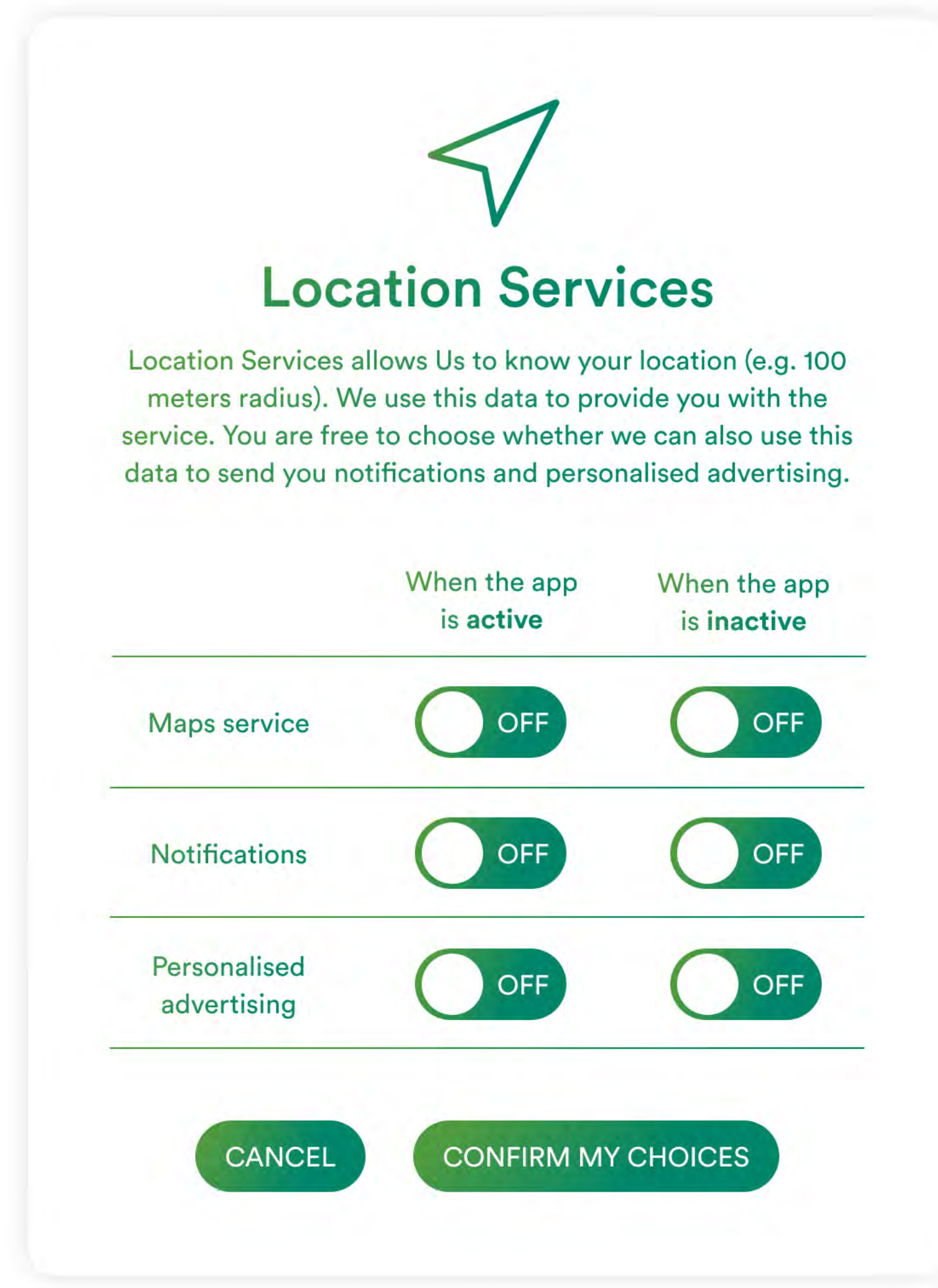
[Check item availability](#)

ADD TO CART

MISLEADING OR OBSTRUCTING LANGUAGE




PLAIN AND EMPOWERING LANGUAGE



MORE THAN INTENDED

Shopping cart

 Premium Economy Flight to XXX \$1,399

Full coverage insurance \$29.99

Subtotal: \$1,428.99

Pay now

FREE ACTION

Shopping cart

 Premium Economy Flight to XXX \$1,399
Free refund and exchange within the next 24hrs

Optional:

☐ Would you like to add an insurance + \$29.99
to your booking?

Subtotal: \$1,399

Book an option for 48hrs for \$5.00

CANCEL

PLACE ORDER

DISTORTED UX

FAIR UX

Select seat

A

B

C

1

D

E

F

A

B

C

2

D

E

F

A

B

C

3

D

E

F

A

B

C

4

D

E

F

A

B

C

5

D

E

F

☒ Smart traveler
window seat
Extra leg room

Total: \$39,99

Next

[Continue without choosing seat](#)

Optional: Would you like to choose your seat?

This will cost between X and Y, depending on the seat.

Choose seat

A

B

C

1

D

E

F

A

B

C

2

D

E

F

A

B

C

3

D

E

F

A

B

C

4

D

E

F

A

B

C

5

D

E

F

Don't want to pay extra?

No worries, your seat will be randomly assigned 48 hours before the flight for free.

SKIP SEAT CHOICE

2023

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Thank you!
Any questions?

fairpatterns.com



marie@amurabi.eu



WINNER
Marie Potel-Saville

💡 **MOST INNOVATIVE PRIVACY PROJECT**

W@PRIVACY AWARDS

Recognizing outstanding women making an impact on privacy.



**INNOVATIVE
LAWYERS 2021**

SHORTLISTED

Innovation in Sustainability & ESG

**TROPHÉES
DU DROIT**
P A R I S

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Contract
Design**



**Issued by
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valid until 08/23
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"amurabi"

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**TROPHÉES
DU DROIT**
P A R I S

MENTION SPÉCIALE

Legaltech : contract management

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