

ECSS 2025

21st European Informatics Leaders Summit

Ethics Workgroup Workshop







Dark Patterns



Ethics WG

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What are Dark Patterns?

- Some websites use tricks to make people agree to share more data than they intended to, or to spend more money than they planned to.
- User Interface experts got together and categorized a number of these tricks that are commonly found on websites, and called them *Dark Patterns*.

Gray, et al. (2018) defined them as "instances where designers use their knowledge of human behavior (e.g., psychology) and the desires of end users to implement deceptive functionality that is not in the user's best interest"



Why are they called that?

- Dark Patterns get their name from an existing concept in computer science called *Design Patterns*.
- Design patterns are a series of general, reusable solutions to a commonly occurring computer programming problems.
- They generally refer to the style of the computer program itself, whereas Dark Patterns focus on the Interface.
- Mathur et al. (2019) did a meta-analysis of 11,286 shopping websites and created a taxonomy to try to explain how dark patterns affects user decision-making by exploiting cognitive biases.
 - ✓ Dark Patterns deceptively get people to give their data and money away.
 - ✓ You or a family member are vulnerable to these misleading interfaces.
 No matter how careful you are, some are extremely effective.





Dark Patterns: Types of Patterns



Types of Dark Patterns

- Trick questions
- Sneak into Basket
- Roach Motel
- Privacy Zuckering
- Price Comparison Prevention
- Misdirection

- Hidden Costs
- Bait and Switch
- Confirmshaming
- Disguised Ads
- Forced Continuity
- Friend Spam

https://darkpatterns.org/types-of-dark-pattern.html



Ethics Trick Questions

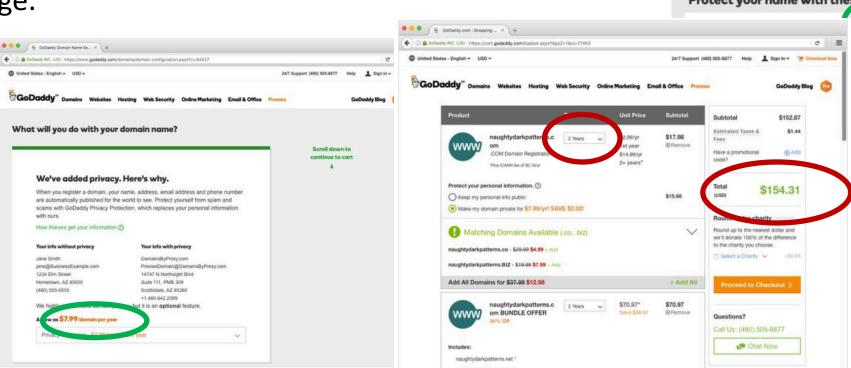
This is very common when registering with a service. Typically, a series of checkboxes is shown, and the meaning checkboxes is alternated so that ticking the first one means "opt out" and the second means "opt in".

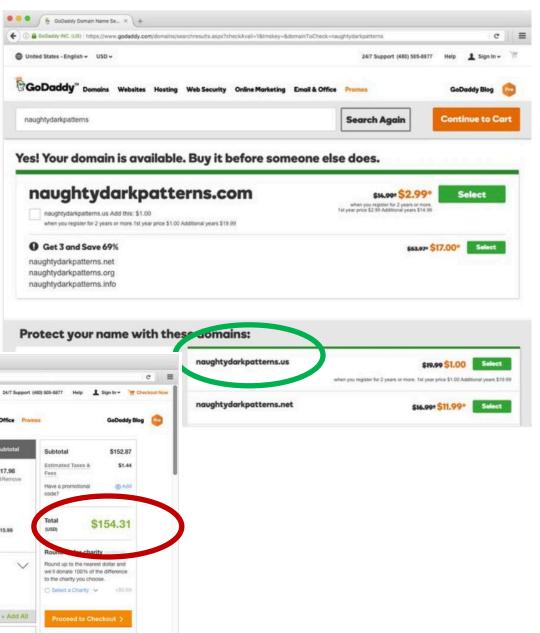
	Mr. \$
First name *:	First name
Last name *:	Last name
Email *:	Email
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	etails of products and offers from Currys.co.uk of products and offers from third party organisations



Sneak into Basket

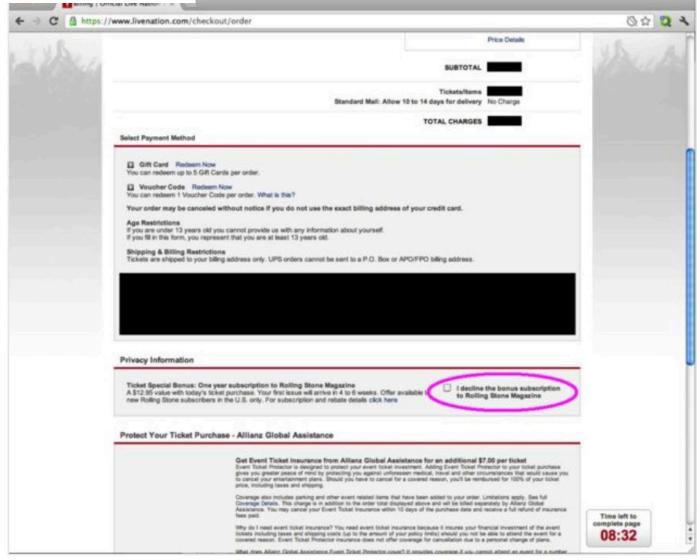
You attempt to purchase something, but somewhere in the purchasing journey the site sneaks an additional item into your basket, often through the use of an opt-out radio button or checkbox on a prior page.







Roach Motel



- When purchasing tickets, livenation.com tries to sneak a subscription to a magazine (into your basket via a trick question on the checkout page).
- Note that the design is "opt out" - the purchase is made for you automatically unless you notice the checkbox and realise you need to tick it to opt out.



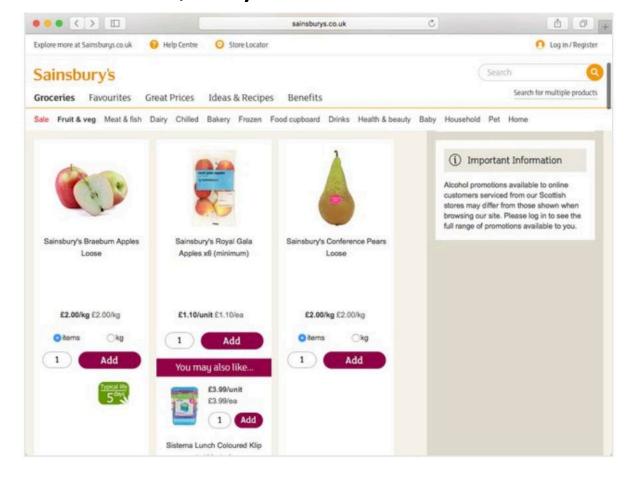
Privacy Zuckering

- You are tricked into publicly sharing more information about yourself than you really intended to. Named by Tim Jones_as a homage to Facebook CEO Mark Zuckerberg.
- In its early days, Facebook had a reputation for making it difficult for users to control their privacy settings and generally making it very easy to "overshare" by mistake. In response to feedback from consumers and privacy groups, Facebook has created a clearer, easier to use privacy settings area.



Price Comparison Prevention

The retailer makes it hard for you to compare the price of an item with another item, so you cannot make an informed decision.

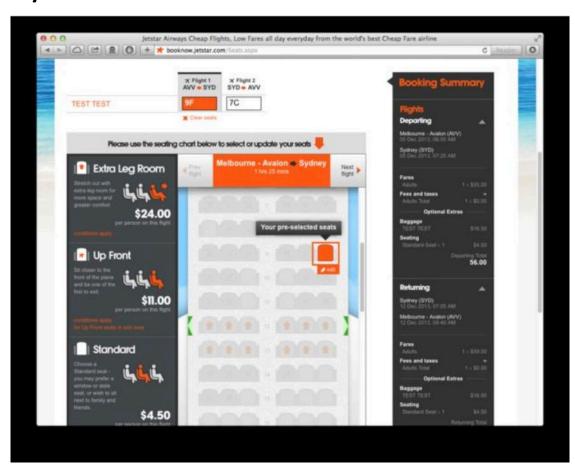


- Retailers typically achieve this by creating different bundles where it is not easy work out the unit price of the items within the bundles.
- In the Sainsbury's website, it is not possible to compare the price of the first item to the second item.



Misdirection

The design purposefully focuses your attention on one thing in order to distract you attention from another.

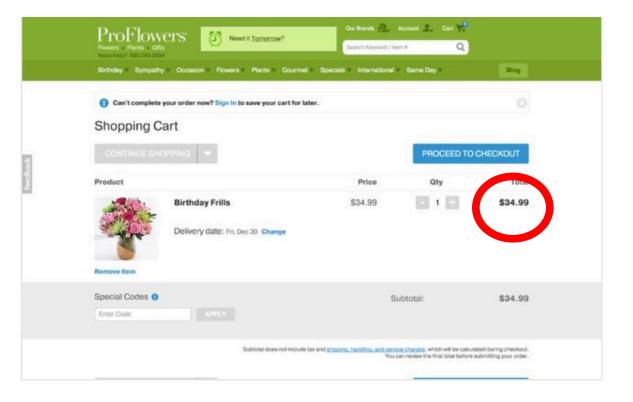


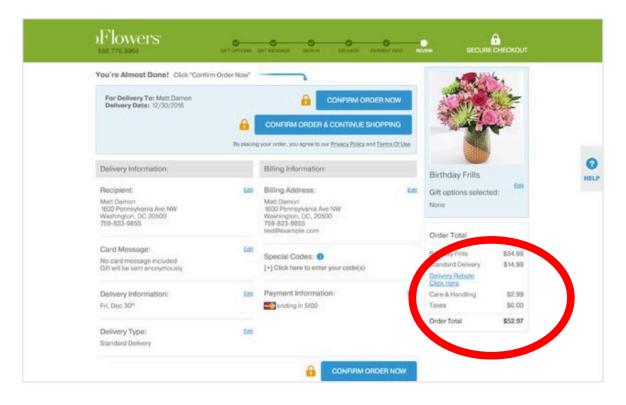
- On jetstar.com, when this page loads, they have already preselected a random seat for you.
- They use word-play trickery, as a "preselected" random seat here costs \$5, but if you opt out via the tiny "skip seat selection" link at the bottom of the page, you're assigned a random seat without the \$5 charge.



Hidden Costs

You get to the last step of the checkout process, only to discover some unexpected charges have appeared, e.g. delivery charges, tax, etc.







Bait & Switch

- The user sets out to do one thing, but a different, undesirable thing happens instead.
- The most famous example of digital bait and switch was Microsoft's misguided approach to getting people to upgrade their computers to Windows 10.



They switched the meaning of the "X" button at the top right to mean the opposite of what it normally means. In all other versions of Windows going back to the 1980s, this button means "close". In this specific instance, they changed it to mean "Yes, I do want to upgrade my computer to Windows 10".



Confirmshaming

Confirmshaming is the act of guilting the user into opting in to something. The option to decline is worded in such a way as to shame the user into compliance.



Amazon uses
 confirmshaming to
 guilt users and
 discourage them
 from opting out.



Disguised Ads

Adverts that are disguised as other kinds of content or navigation, in order to get you to click on them.

- Softpedia often run advertisements that look like a download button, tricking users into clicking on the ads rather than getting the thing they wanted.
- The real download link is at the top left of the page. The disguised ads are highlighted in red.

LAVANGUARDIA



MÁSNOTICIAS

Likuwa antuahan dedudentdahan duracer La guerra de los minerales

China asfixia a Occidente al endurecer las exportaciones de las tierras raras

Pekín congela la mitad de las solicitudes europeas y Trump se apoya en Australia

- Por qué las tierras raras son piezas clave de
- Washington baraja represalias, desde el software hasta las minas de cuarzo



Vídeo del día

Dos highliners cruzan la cuerda floja de Waterval Boven v baten el récord continental







Réduisez votre corvée

de repassage

Sèche-linge avec

En savoir plus

(A) BOSCH

Iron Assist

Des technologies pour la vie





Miles de personas protestan en Sevilla por ¿Es mas progresista ser peaton?

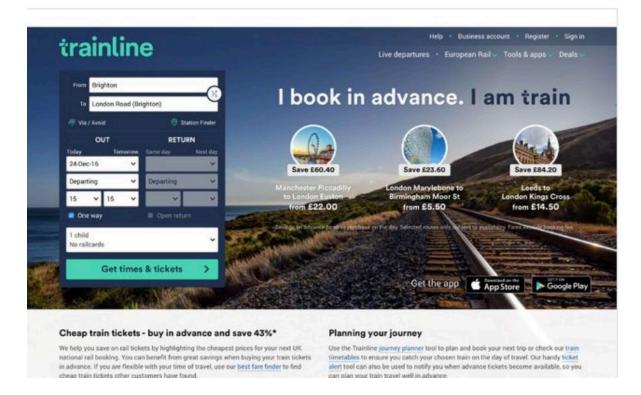
¿Es más progresista ser

Amiloidosis cardiaca: infradiagnosticada e infratratada, pero con



Forced Continuity

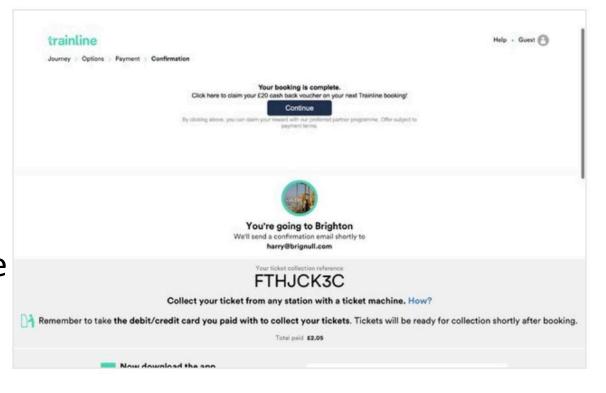
- When your free trial with a service comes to an end and your credit card silently starts getting charged without any warning. You are then not given an easy way to cancel the automatic renewal.
- thetrainline.com allows you to buy a ticket in the normal way.





Forced Continuity

• When you complete the process, you are taken to a confirmation page, as shown below. The top box of content on the page is a <u>disguised ad</u>, using the same font and the same dark blue button style used by thetrainline.com.



 Having clicked a continue button a few times during the checkout process, you're very likely to think you need to click this button too, just to finish your booking. In fact, this isn't true.

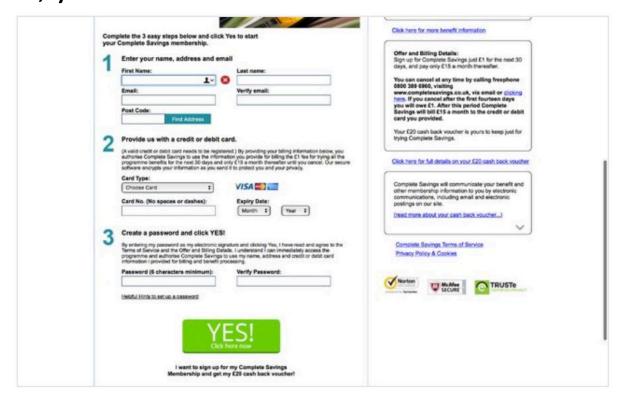


Forced Continuity

When you click the continue button, you're taken to another site (one-time-offer.com), which tries to convince you to sign up for a £20 money-off voucher.

• If you sign up to this service, you are enrolled into a £15 a month subscription

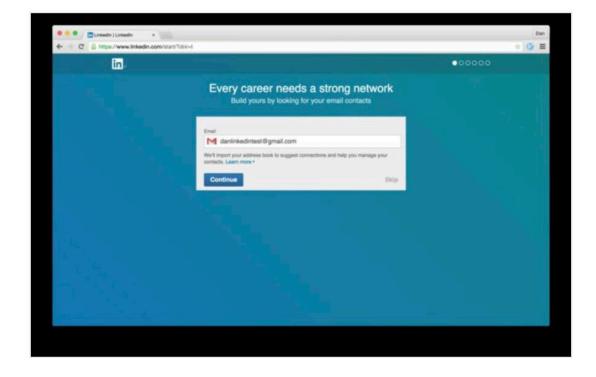
which continues forever





Friend Spam

The product asks for your email or social media permissions under the pretence it will be used for a desirable outcome (e.g. finding friends) but then spams all your contacts in a message that claims to be from you.

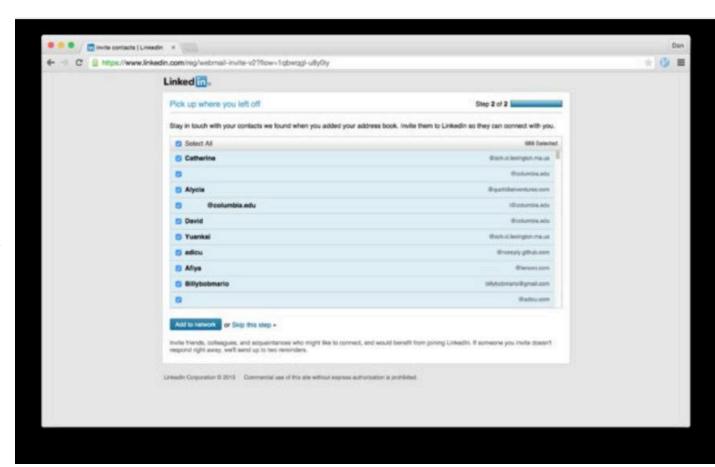


As part of the sign-up process to Linkedin, they encourage you to give them access to your email account, on the premise that it will give "your career a strong network".



Friend Spam

If you allow yourself to be guided through the steps, you're taken to the next page. If you click the innocent-sounding button "Add to network" you are inadvertently giving Linkedin permission to spam every person you've ever emailed.







Dark Patterns: In-Class Activities



DARK PATTERNS

DARK PATTERNS		Right or Wrong
Sneak into Basket	"I never put that item in my basket"	
Hidden Costs	"It was such a good deal until delivery charge was double the price of It"	
Confirmshaming	"I really don't want it but I feel silly not taking it"	
Trick Questions	"I never opted-in to that. Why are they emailing me?"	
Misdirection	"How did I not see that I had subscribed to that?"	
Disguised Ads	"I just clicked on an ad when I thought I was pressing the download button"	
Roach Motel	"I don't want to subscribe anymore but I can't get out"	
Forced Continuity	"I had a free trial but I don't want to subscribe now How can I get out of it?"	
Privacy Zuckering	"How can people see my posts? My privacy settings should prevent this"	
Bait & Switch	"Why did that happen? As far as I am aware I did not do it"	
Friend Spam	"Why is my email being spammed?"	
Price Comparison Prevention	"I can't find the price for the plans that are being described"	



CONTEXT:

LauraLynn's mission is to provide a Community of Care that delivers evidence-based, personalised services to children with palliative care needs, complex care needs and complex disabilities, while also providing family support services and a home to our residents where quality-of-life is paramount.

https://www.lauralynn.ie

ROLE PLAYING

- You are a parent or relative of a child with complex disabilities
- You are a child with a terminal illness
- You are a volunteer working for the LauraLynn charity
- You are a donor to the LauraLynn charity



REFLECTIONS

- Take a good look at their web site and at their use of Dark Patterns while assessing their Virtue Ethics.
- What are the Virtue Ethics and how do you look at the Dark Patterns on their web site?

Virtue Ethics by Aristotle

- 1. Courage in the face of fear
- 2. **Temperance** in the face of pleasure and pain
- 3. Liberality with wealth and possessions
- 4. **Magnificence** with great wealth and possessions
- 5. **Magnanimity** with great honours
- 6. **Proper ambition** with normal honours
- 7. **Truthfulness** with self-expression
- 8. Wittiness in conversation
- 9. **Friendliness** in social conduct
- 10. **Modesty** in the face of shame or shamelessness
- 11. Righteous indignation in the face of injury



GROUP DISCUSSION

If an organization is using Dark Patterns, and the organization is a charity using the patterns for the best of reasons, is it truly wrong?



CONTEXT:

McCabes Pharmacy is Ireland's leading pharmacy chain, with over 110 pharmacies nationwide, they offer expert healthcare advice, prescription services, and a wide range of health and wellness products.

https://www.mccabespharmacy.com

ROLE PLAYING

- You are caring for your elderly parent and wondering if she should get a flu vaccine
- You are an adolescent and are concerned about the quality of your skin
- As a new parent, you're unsure about how to handle your child's teething
- You are a pharmacist and are being asked advice on health and beauty products



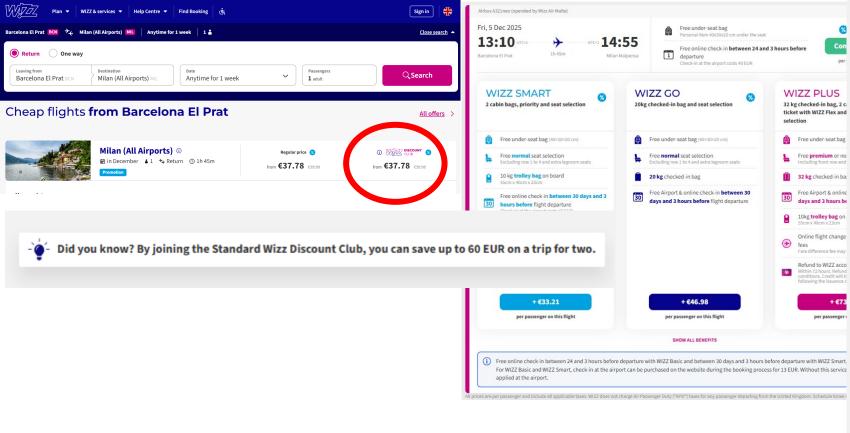
REFLECTIONS

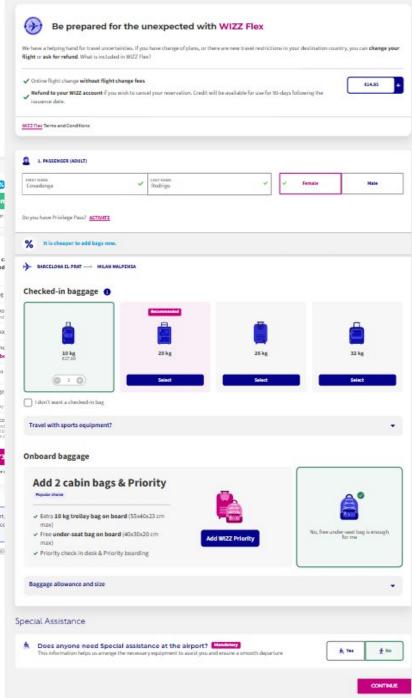
From the perspective of McCabes Pharmacy, what are the consequences (good or bad) of each of the dark patterns?

GROUP DISCUSSION

If an organization is declaring to provide expert healthcare advice, prescription services, and a wide range of health and wellness products, and using Dark Patterns, is this acceptable?









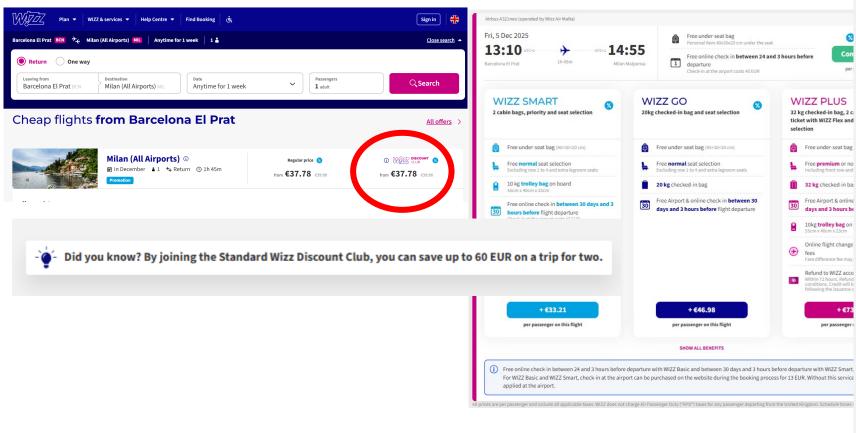
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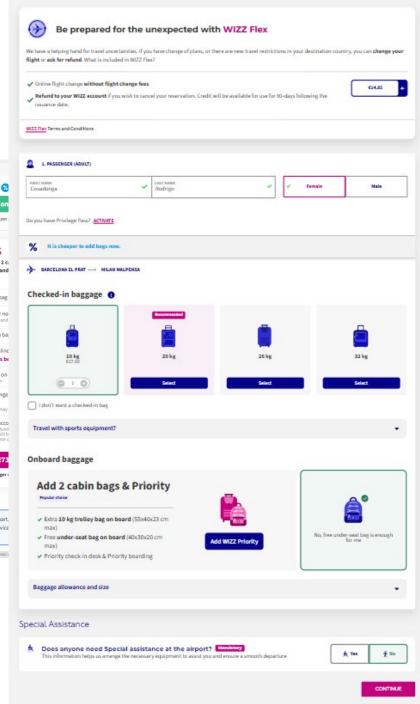
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Price Comparison Prevention Hidden Costs Forced Continuity





DARK PATTERNS: Discussion Cards

Discussion Card

Dark Patterns are bad.

Discussion Card

If I was asked to write an interface with a dark pattern, I wouldn't do it, even for €1 million.

Discussion Card

It's the users' own fault if they fall victim to a dark pattern.

Discussion Card

I rarely read everything when interacting with a site and have been caught out by the interface.

Discussion Card

Some Dark Patterns are worse than others.

Discussion Card

Some organisations have plausible explanations why they have interfaces that use dark patterns.

Acknowledgements



www.Ethics4EU.eu

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Ethics WG

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ECSS is a community event your opinion and contribution matters!!





Learning Outcomes

On completion of this activity, participants will be able to:

- A. Demonstrate a clear understanding of the concepts and models associated with dark patterns.
- B. Critically assess and evaluate computer interfaces for potential dark patterns.
- C. Relate concepts associated with ethics to the development and evaluation of dark patterns.
- D. Compare and contrast how different types of dark patterns use different psychological factors (Trust, Ignorance, Fear, Greed, Moral duty, Urgency, Panic, Anger) to succeed.