

# Human-Centred Design: Process, Ethics & Inclusivity

**Dr Tara Capel**

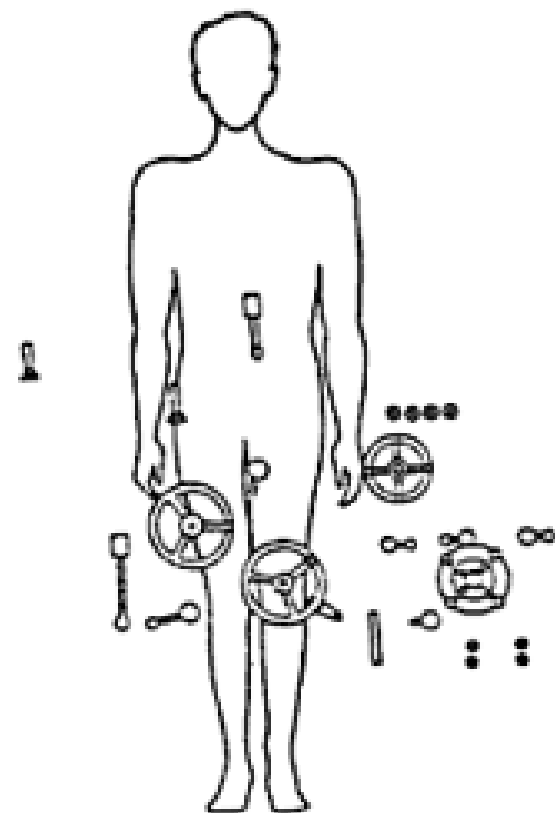
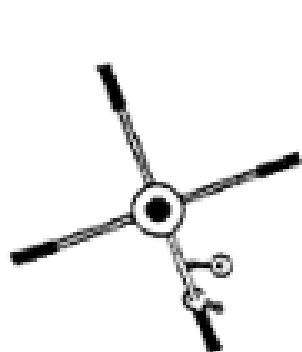
**Lecturer in Design Informatics, University of Edinburgh**

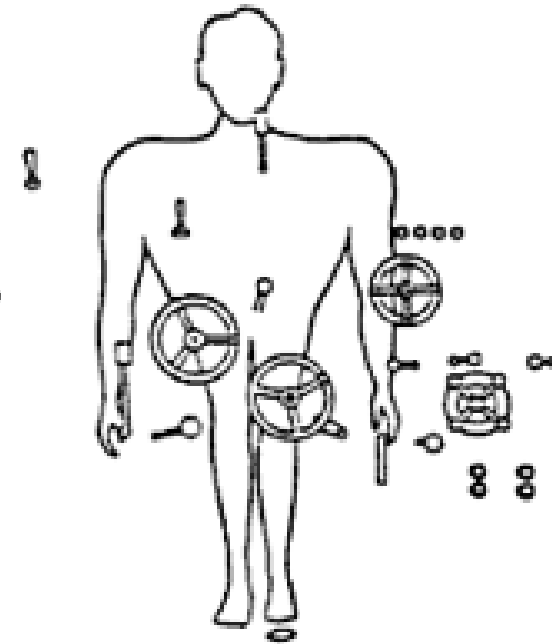
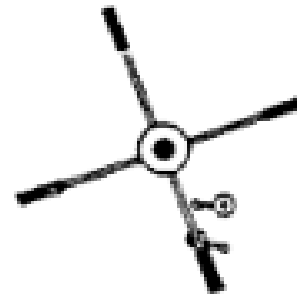


# About Me

- Lecturer in Design Informatics
- PhD Human-Computer Interaction
- UX Researcher and Designer

# Key Concepts of Human-Centred Design





The controls of a lathe are not within easy reach of the average man, but are so placed that the ideal operator should be 137 cm (4.5ft) tall, 61cm (2 ft) across the shoulders and have an arm span of 234cm (8ft). (Pheasant, 1986)

Technology-centric design --> **human-centred design**

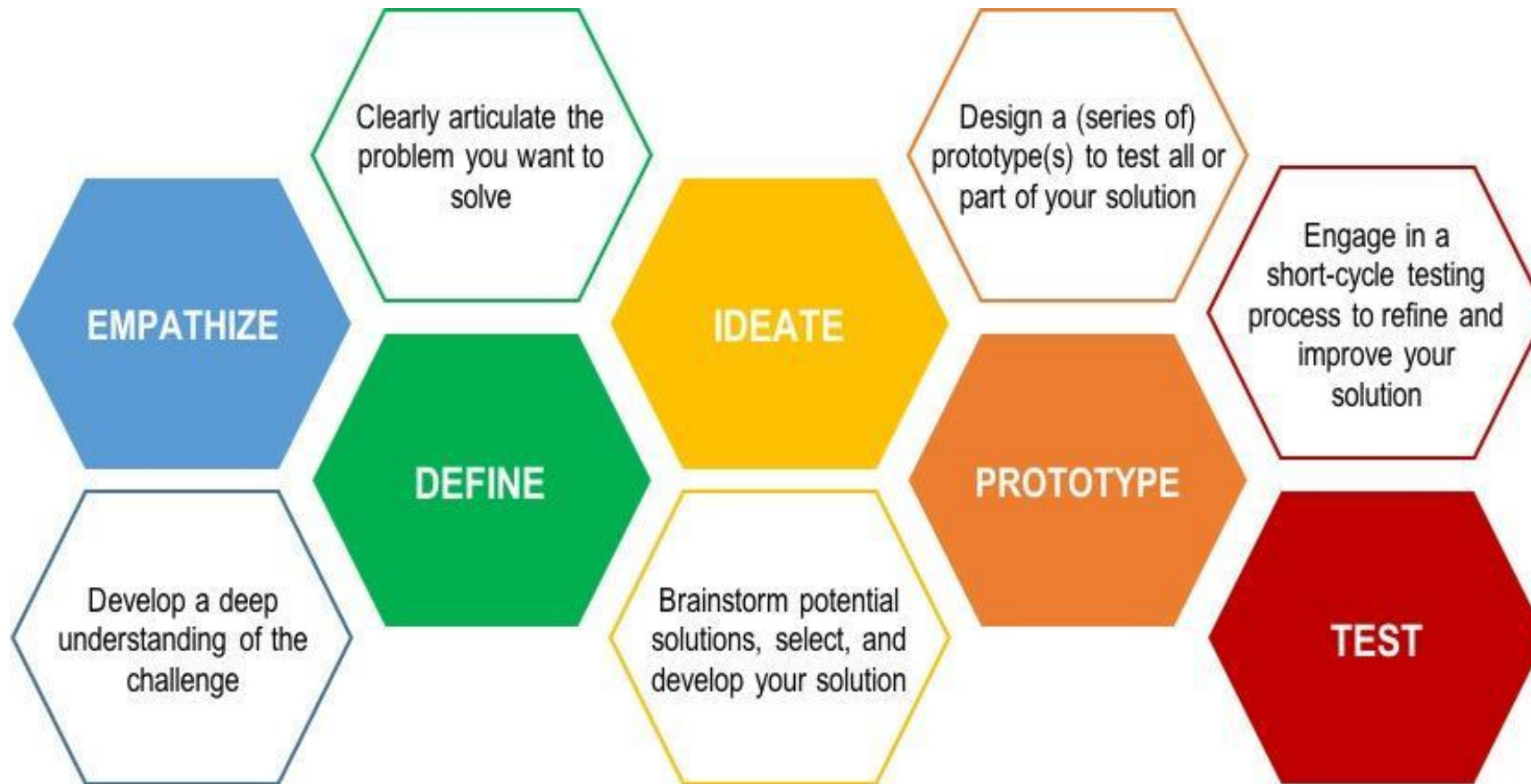
# Principles of Human-Centred Design

(also known as *User-Centred Design*, *User Experience Design*, *Design Thinking* or *Usability Engineering*)

- **Human-centred:** focused on people, activities and context from the project start
- **Participative:** involving target users as members of the design team
- **Empirical:** evaluating usability and user experience in trial studies with end users
- **Iterative:** designing, evaluating, and redesigning as a regular cycle until results satisfy the user experience needs
- **Integrated:** (agile) software development, marketing, training, websites, ...

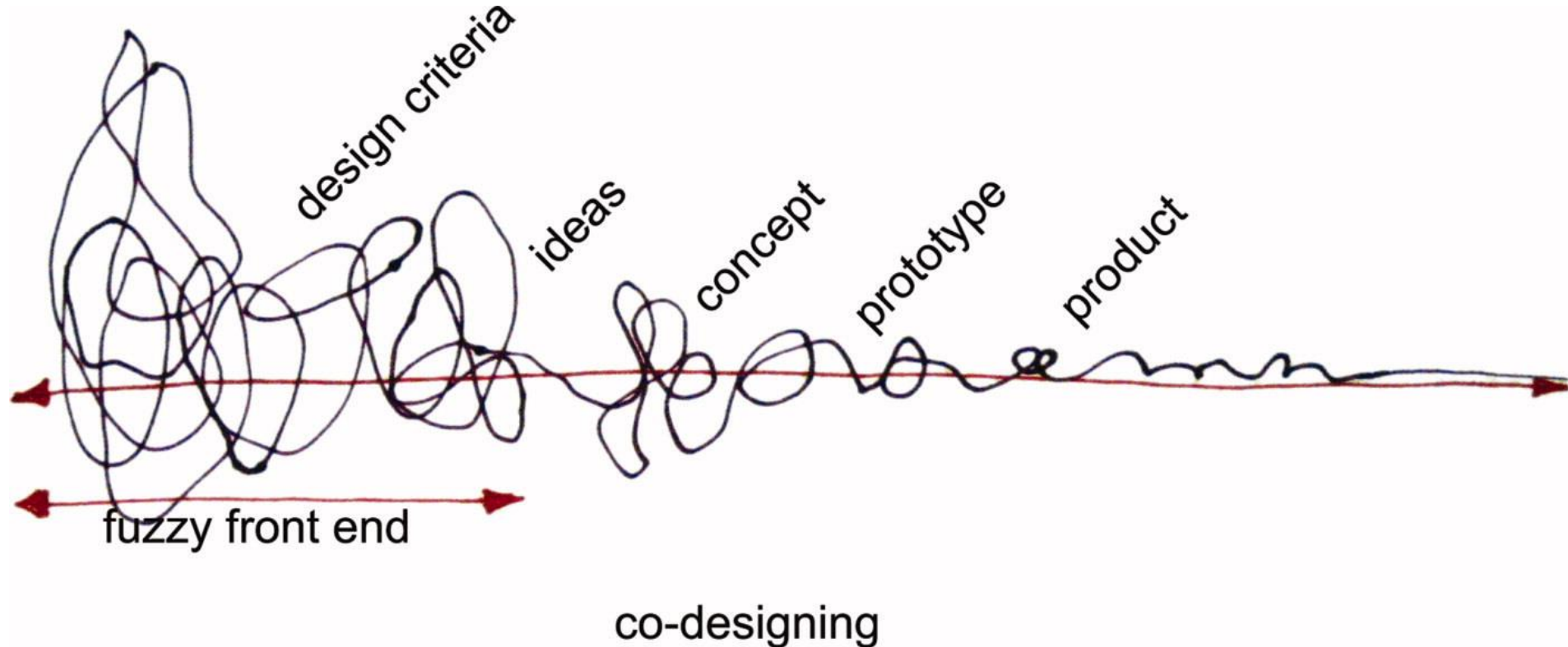
How to apply HCD in practice

# Human-Centred Design (Stanford model)





# Human-Centred Design Process in the Real World



Sanders EB, Stappers PJ. Co-creation and the new landscapes of design. Co-design. 2008 Mar 1;4(1):5-18 <https://doi-org.ezp01.library.qut.edu.au/10.1080/15710880701875068>

# Co-Designing with Women at a Community Centre



## Self-Reporting Probe Kits

- Collaborated with a non-profit community centre
- 15 women were given camera packs with video camera, disposable camera and prompts



## Findings

- Participants engaged in making activities, such as knitting and craft, to support wellbeing
- Participants had stories, experiences and advice they wished to share with other women

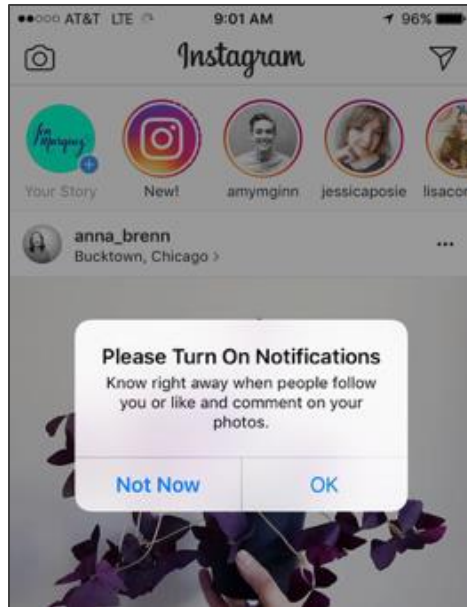


## Design Implications

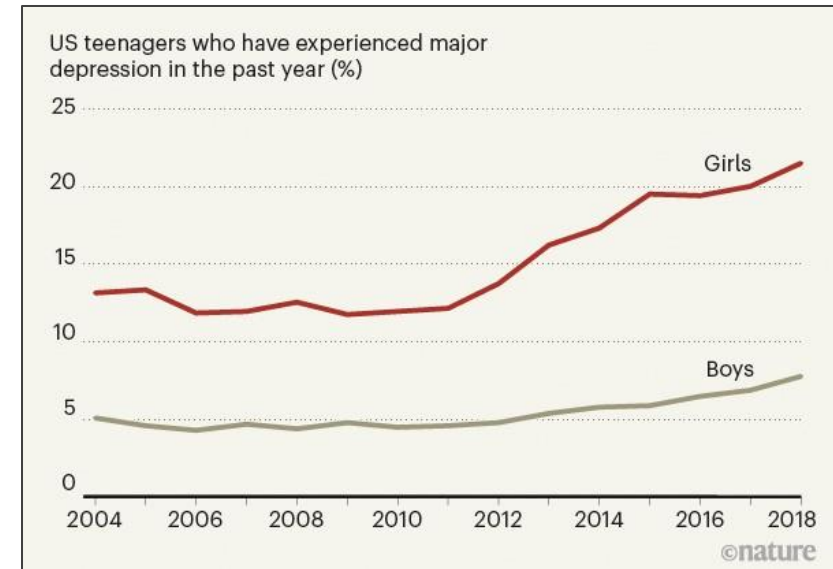
- Participants suggested an online community platform within a women-only space
- Tried the creation of an e-zine

# Human-Centred Design and Ethics

# There is also a dark side of human-centred design



- Dark patterns of UX design trick users into doing things that benefits the company rather than the user, like turning on notifications
- <https://darkpatterns.uxp2.com/pattern/instagram-no-option-for-no/>  
<https://www.deceptive.design/>



- UX design is essential in social media to drive engagement and to make a profit. But there is a hidden cost to our wellbeing, such as an increase in the rates of depression, anxiety and self-harm
- <https://www.nature.com/articles/d41586-020-00296-x>

# Examples of Dark Patterns

# Hidden Costs

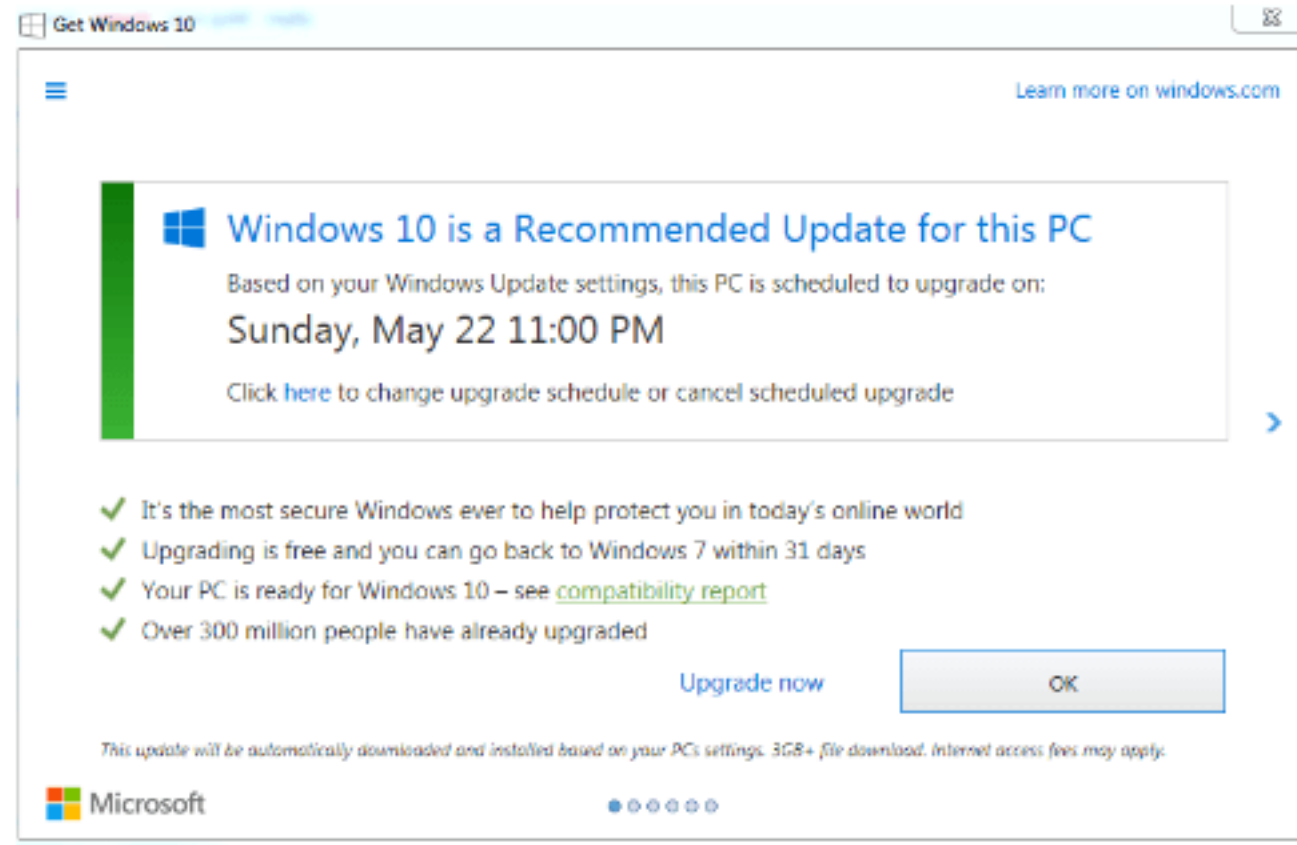
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<https://www.fyresite.com/dark-patterns-a-new-scientific-look-at-ux-deception/>

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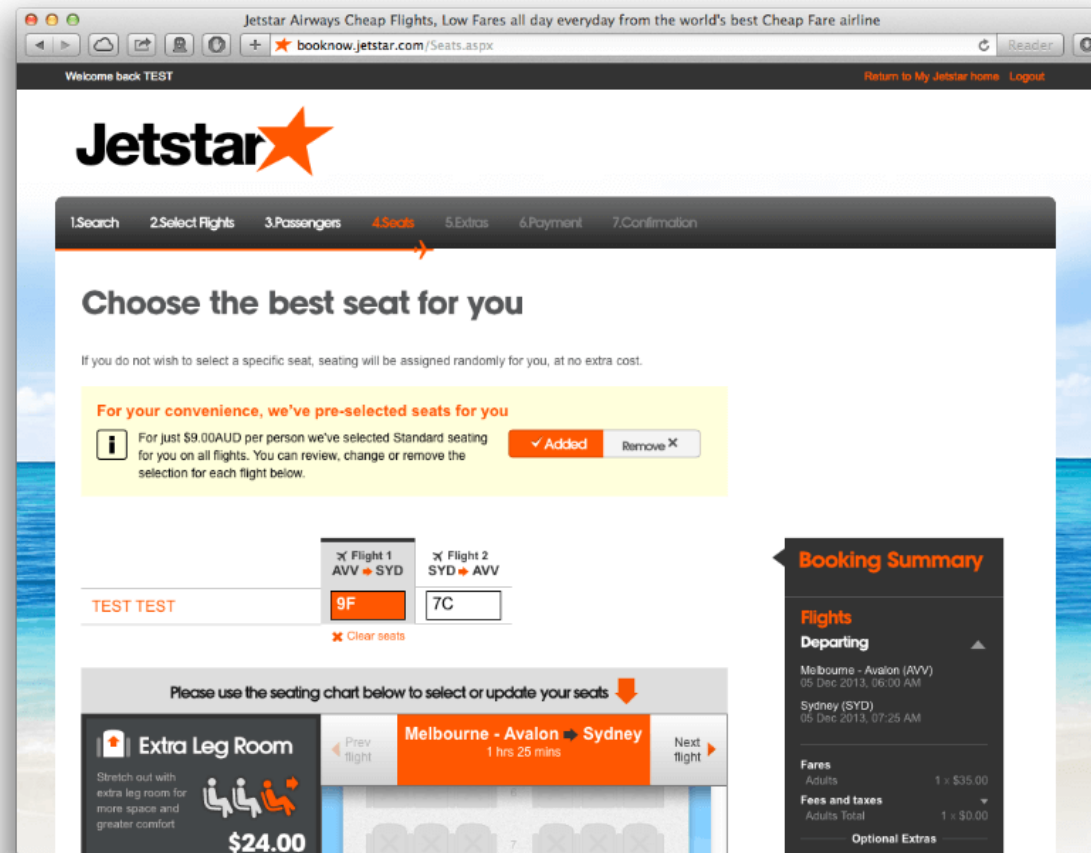
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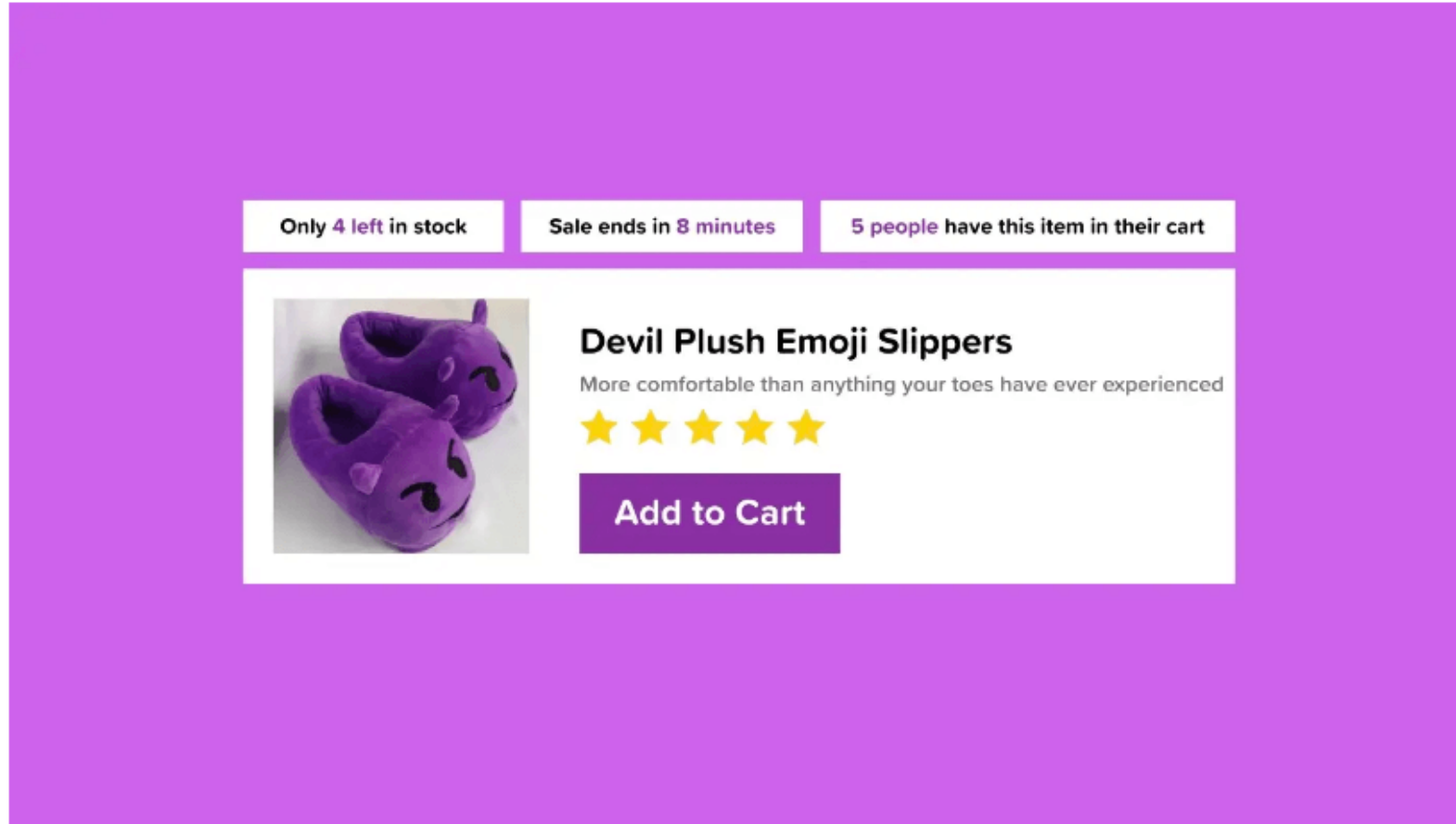
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<https://uxbooth.com/articles/ux-dark-patterns-manipulinks-and-confirmshaming/>

# Activity

- On the next slide are 2 screenshots of real-life interfaces using dark patterns
- Work in pairs to identify the dark patterns in each example and suggest how they would redesign them to be more ethical
- Group discussion

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<https://www.reddit.com/r/assholedesign>



## Allow Instagram to use your app and website activity?

To provide a better ads experience, we need permission to use future activity that other apps and websites send us from this device. This won't give us access to new types of information. [Learn more](#) about how we limit our use of your activity if you turn off this device setting, and related settings on Instagram.

Make Ads Less Personalized

Make Ads More Personalized

# Inclusive and Accessible Design

# Inclusive and Accessible Design

- **Inclusive Design** –  
a design methodology that enables and draws on the full range of human diversity
- **Accessibility** –  
the qualities that make an experience open to all
- If we start the design process from our own abilities and biases, we end up with products designed for people of a specific gender, age, language ability, tech literacy and physical ability
- Designing for inclusivity opens up products and experiences to more people with a wider range of abilities

# Inclusive Design Principles

- **Recognise Exclusion** –  
exclusion can occur when we design from our own biases, we are responsible for knowing when our designs cause exclusion
- **Learn from Diversity** –  
people adapt to different situations, understanding these adaptations is the key to real insights
- **Solve for one, extend to many** –  
inclusive design connects different people who have similar circumstances, consequently benefitting a wider range of people



# The Role of Human-Centred Design

- Inclusive and accessible design highlights the importance of user research to gain insights into diverse user groups
- Through human-centred design we can understand users' needs and challenges
- Encourages empathy to design with end-users in mind, considering their diverse backgrounds, abilities and preferences
- Emphasises the role of user testing and iterative design to ensure inclusivity
- Encourages collaboration and feedback from diverse user groups throughout the design process

# Accessibility Guidelines and Standards

- Web accessibility standards: Web Content Accessibility Guidelines (WCAG)
- Principles:
  - Perceivable – UI components and information are presented in a way that people can perceive
  - Operable – UI components and navigation are operable
  - Understandable – operation of UI and information is understandable
  - Robust – content can be interpreted reliably by a wide variety of end-users, including assistive tech
- Guidelines and Success Criteria
- Sufficient and Advisory Techniques
- All of these layers work together to provide guidance on making web content more accessible

References:

<https://www.w3.org/TR/WCAG21/>

# Activity

- Prompt: for 2 minutes think of an example of a time you had difficulty with technology/interface/something else
- In groups of 4-5 pick from the examples discussed and identify issues of accessibility and inclusion
- Answer the following questions:
  - What could the lack of an accessible option cause? What could be the consequences for the user?
  - How could the design be made more inclusive? Or how might you redesign the technology altogether?
- Class discussion

Questions?