Slide 1:

Informatics 1

Critical Skills & Practices

INF1-CRISP (INFR07003)

Week 8, Lecture 3: **Human-Computer Interaction**

Alex Gillespie

with content adapted from Alex Taylor, Tara Capel, Kimberley Paradis, & Uta Hinrichs

Slide 2: What is Human Computer Interaction?

- As a process: people operate and engage with computer systems
- As a discipline: examines how users interact with technology, including the design of interfaces, user experience, and accessibility

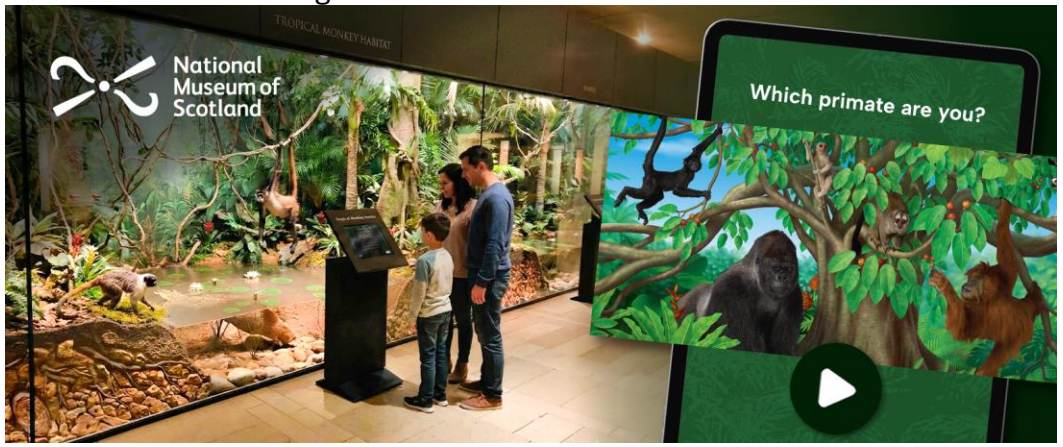
Slide 3: Where Have I Seen HCI?

- Everywhere!

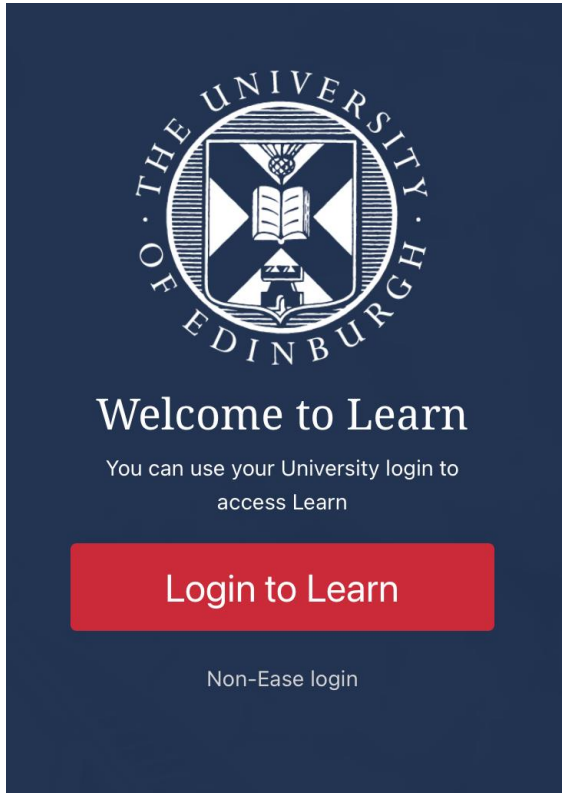




https://www.gq-magazine.co.uk/article/best-video-games-all-time



https://drimify.com/en/success-stories/national-museum-scotland-engages-175k-visitors-interactive-gamified-exhibition/



Slide 4: Who Does HCI?

- Everyone! But only a few specialise
- HCI is a part of most computer science curricula
- User interfaces, design, and overall effects on humans are a part of technologies that you'll build throughout your informatics career
- Long-term, understanding HCI (even if you are not directly responsible for UX) will make you a far better member of teams
- HCI practitioners tend to be interdisciplinary, come from all sorts of backgrounds, and use all sorts of methodologies

Slide 5: Who Does HCI?



Uta Henrichs

- “My background is quite interdisciplinary, including computer science, visual design, psychology, and political science”

http://www.utahinrichs.de/About/About



Tara Capel

- “Her research combines participatory and feminist research, collaborative design (co-design), design probes and making practices to explore new areas of technology design”

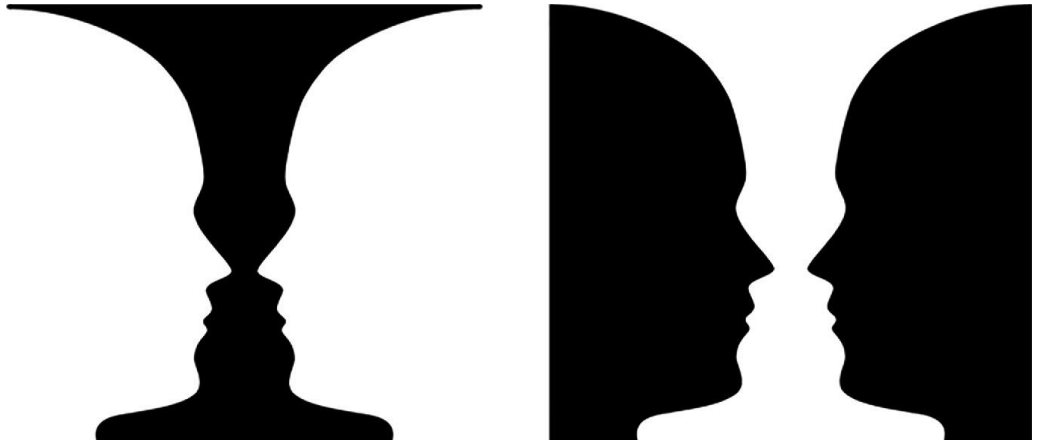
https://designinformatics.org/portfolio-item/tara-capel/

Slide 6: What You Can Do

- HCI is a big discipline and there are lots of different perspectives on it
  - Dig into it if you're curious!
- This course should be teaching you that Informatics is a lot more human than it seems at first
- Keep in mind a few different things as you go through your Informatics careers…

Slide 7: Design is More than What Looks Good

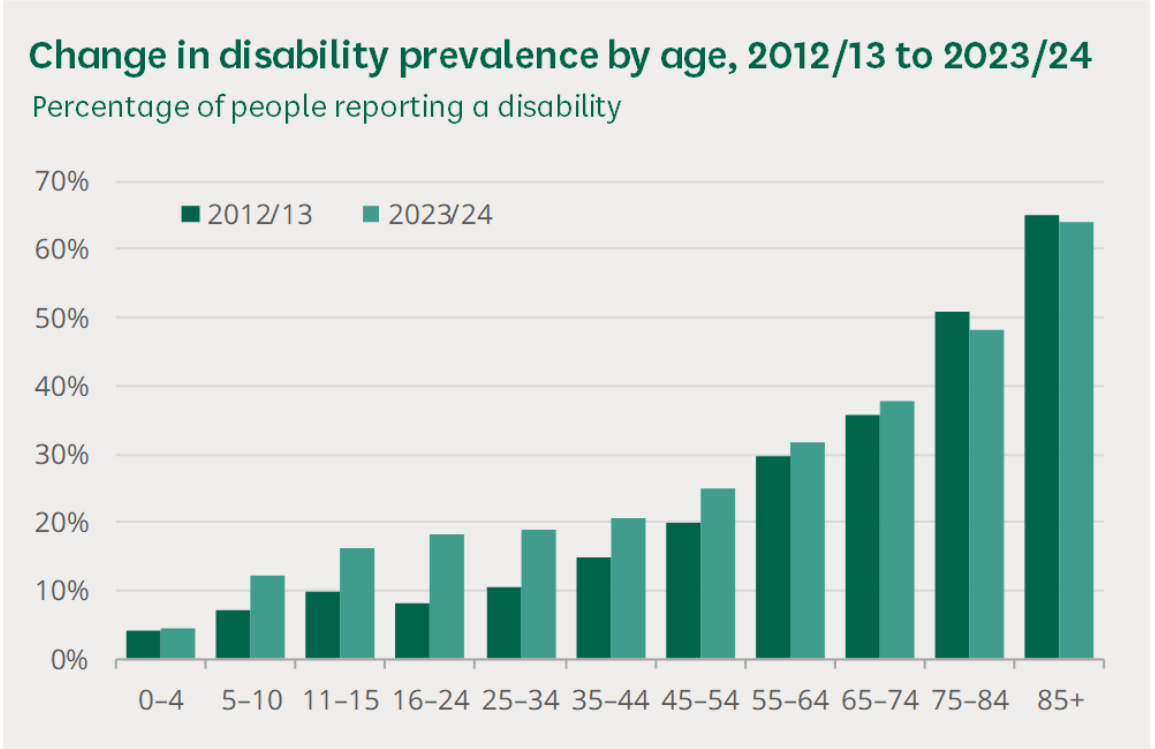
- Can you read this?
- How about this?
- How about this?
- *What* information is sticking *out* to you?



Rubin's Vase/Face (1915)

Slide 8: Design is More than What Looks Good

- Designing for people with a range of abilities is important
- Accessibility is for more than disabled people, too!
  - Designing for one-handed use, including subtitles, etc.



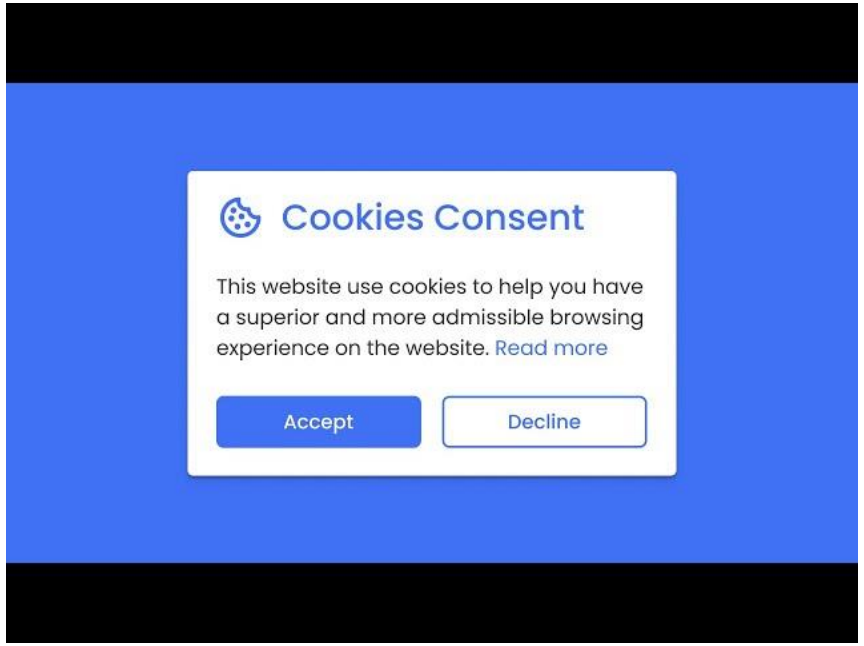
https://commonslibrary.parliament.uk/research-briefings/cbp-9602/

Slide 9: Design Can Manipulate

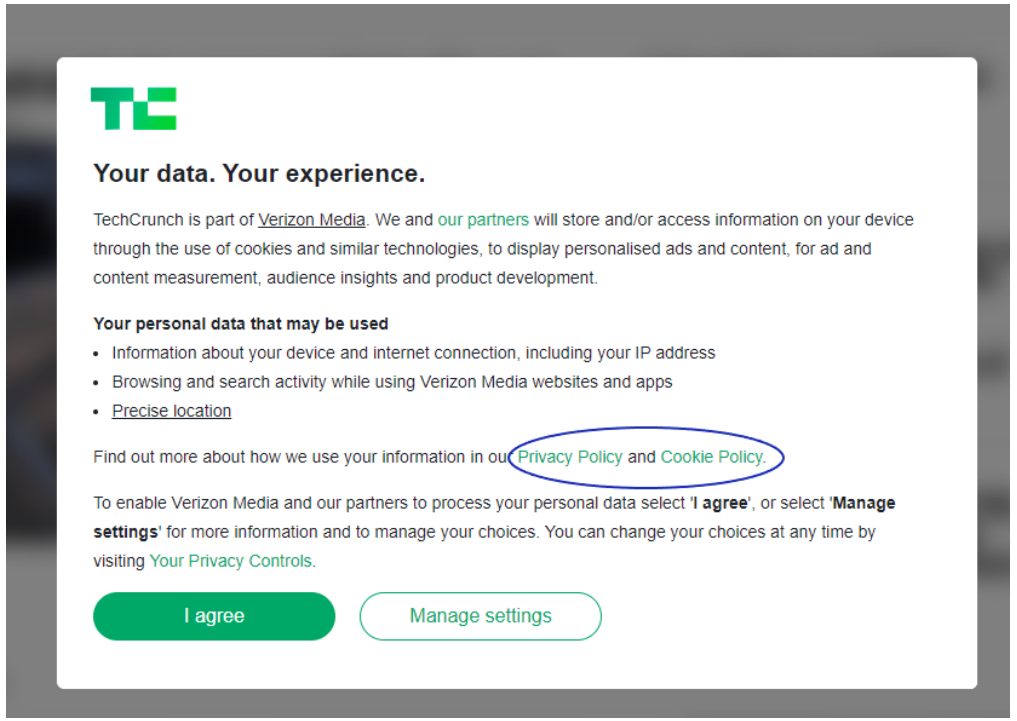
- No matter what, technology exists within sociopsychological contexts
- Technology is designed for a specific purpose
- That purpose may be manipulative, using **dark design patterns**

Slide 10: Design Can Manipulate

- You've all probably seen cookies before…



https://www.youtube.com/watch?v=4Ev4i2iWngc



https://sprinto.com/gdpr/cookie-consent/

Slide 11: Design Can Manipulate

- Why do we care about cookies?
  - **functional cookies**, related to personalising your browsing experience (such as language or region selection)
  - **analytics cookies**, which provide statistical information about how visitors use the website, and
  - **advertising cookies**, which track information to build a profile of you and help show targeted advertisements.
- Your data has power!!!

https://theconversation.com/what-does-it-mean-to-accept-or-reject-all-cookies-and-which-should-i-choose-256219

Slide 12: Your Users are Humans

- Picture a reasonable, average user...
  - Reasonable decisions, reasonable actions, reasonable needs, average life experiences, etc...
- That image is going to be dictated by your understanding/perspective
- "*Reasonable*" is a legal term
- You wouldn't design a system for a 31-year old just because that's the *average* age of people on earth

Slide 13: Your Users are Humans

- Humans have weird thoughts and do weird things
- Companies will also try to defer a lot of responsibility onto users

Microsoft says Copilot is for entertainment purposes only, not serious use — firm pushing AI hard to consumers and businesses tells users not to rely on it for important advice

News By Jowi Morales | last updated 3 April 2026

These might be boilerplate disclaimers, but they kind of contradict the company's ads and marketing.



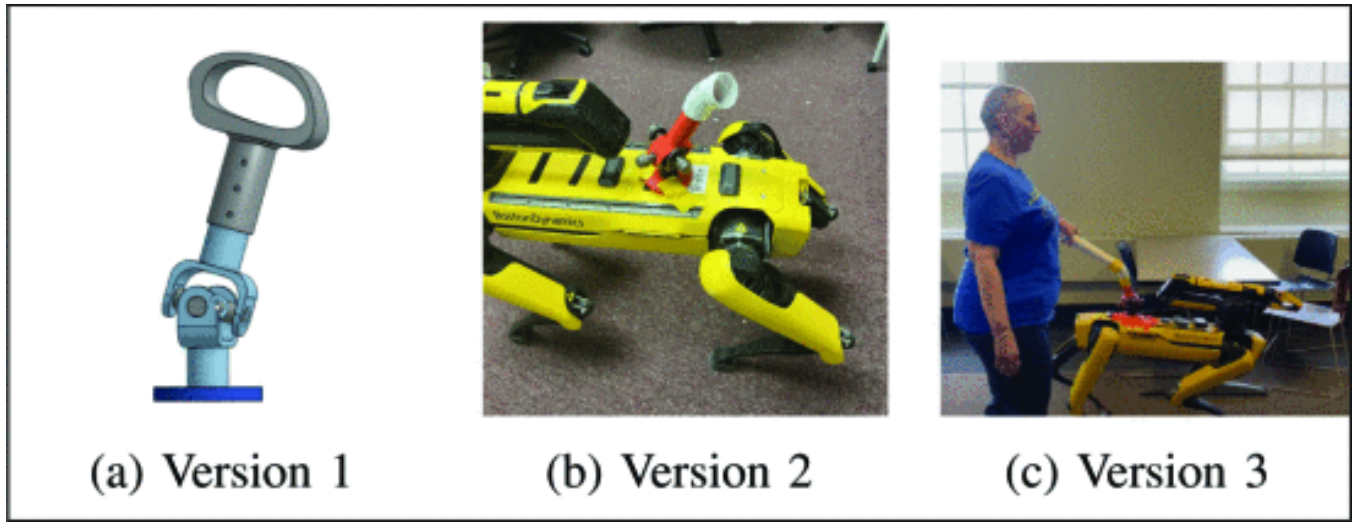
https://www.tomshardware.com/tech-industry/artificial-intelligence/microsoft-says-copilot-is-for-entertainment-purposes-only-not-serious-use-firm-pushing-ai-hard-to-consumers-tells-users-not-to-rely-on-it-for-important-advice

Slide 14: Who is Designing? Who is it for?

- Consider who you are (your positionality)
- Consider who you're designing for
- Ask yourself:
  - Are you the right person to build this thing?
  - Who told you to build it? Are they the right person to say this thing needs to exist?
  - Who else should be involved in this conversation?
  - Who is usually excluded from this conversation?

Slide 15: Who is Designing? Who is it for?

- Example from robotics…
  - Designing a quadruped robot as a blind/low-vision navigation aid
  - Co-designed with a guide dog user of 30+ years
  - Example of valuable input: handle positioning





Doore, S. A. et al. Co-designing an accessible quadruped navigation assistant. (2024)

Slide 16: We Give Machines Power

- Humans behind technology give those technologies the power they have
- Be intentional when you use technology and what you choose to give to the public
- Technology is often built incrementally. Consider the down-stream effects of the thing you build.
- Just because you are told to build something, doesn’t mean you should
  - Exercise your power to refuse!

Slide 17: We Give Machines Power

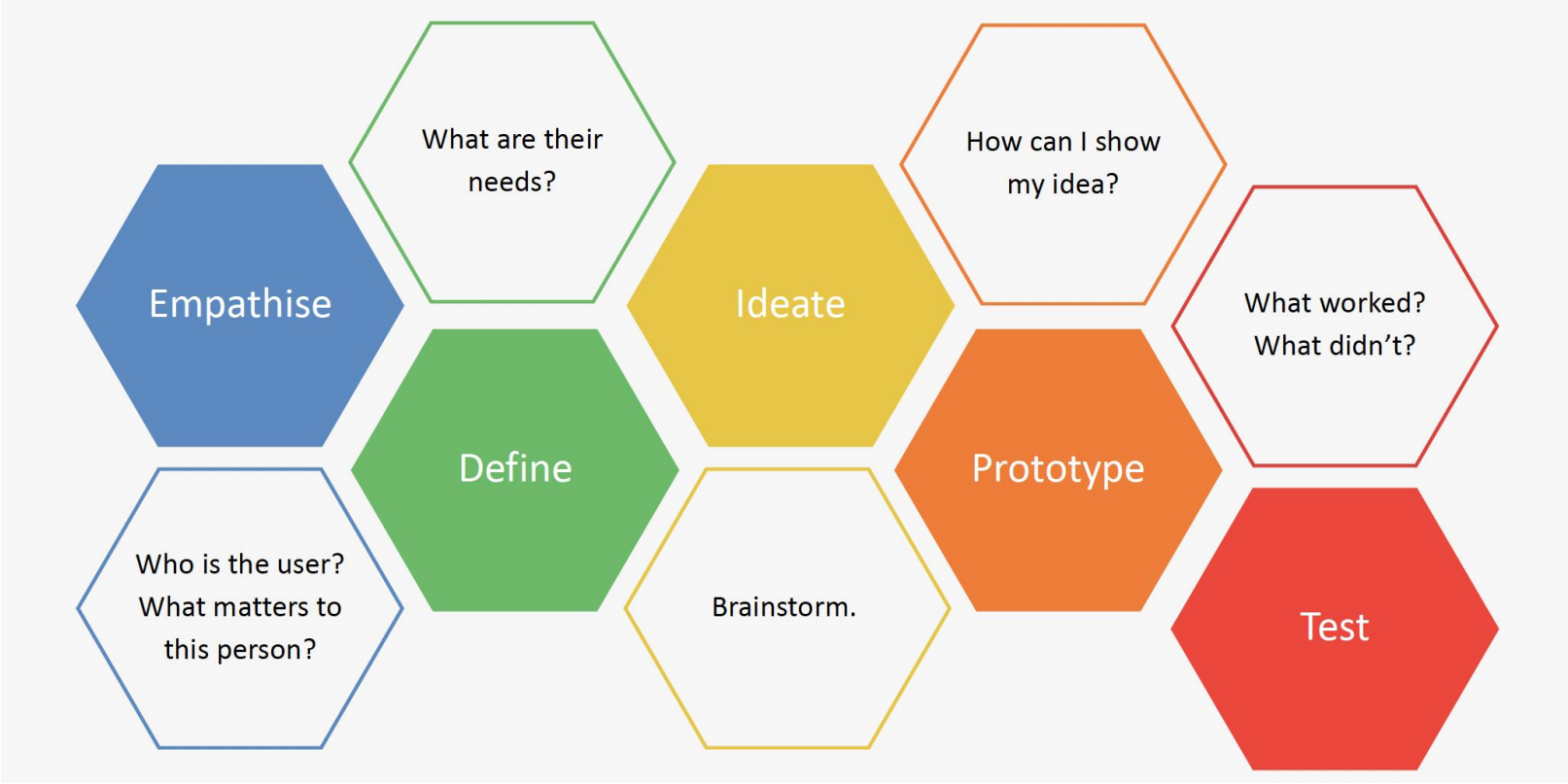
- Frances Haugen was a whistleblower, leaking documents disclosing Facebook contributed to violence in developing countries, and Instagram negatively impacted young people's mental health
  - Initiated several lawsuits and a movie deal



https://edition.cnn.com/2026/10/11/us/video/one-on-one-with-facebook-whistleblower-frances-haugen

Slide 18: How do you do HCI?

Human-centered design is a process, mindset, and approach to identify meaningful challenges and creatively solve complex problems.



Stanford Model for Human-Centred Design

https://dschool.stanford.edu/tools/human-centered-design-integrative-design-exploration

Slide 19: How do you do HCI?

- **Methodology types**
  - User-centred vs. expert methods
  - Abstract vs. concrete
  - Obtrusive vs. unobtrusive
  - Example: lab study (more abstract and obtrusive) vs. field study (more concrete and unobtrusive)
- **Quality criteria**
  - Generalizability (typically higher in the results of large-scale surveys)
  - Precision (typically higher in the results of lab experiments)
  - Realism (typically higher the results of field studies)

Slide 20: Examples from Alex G's PhD

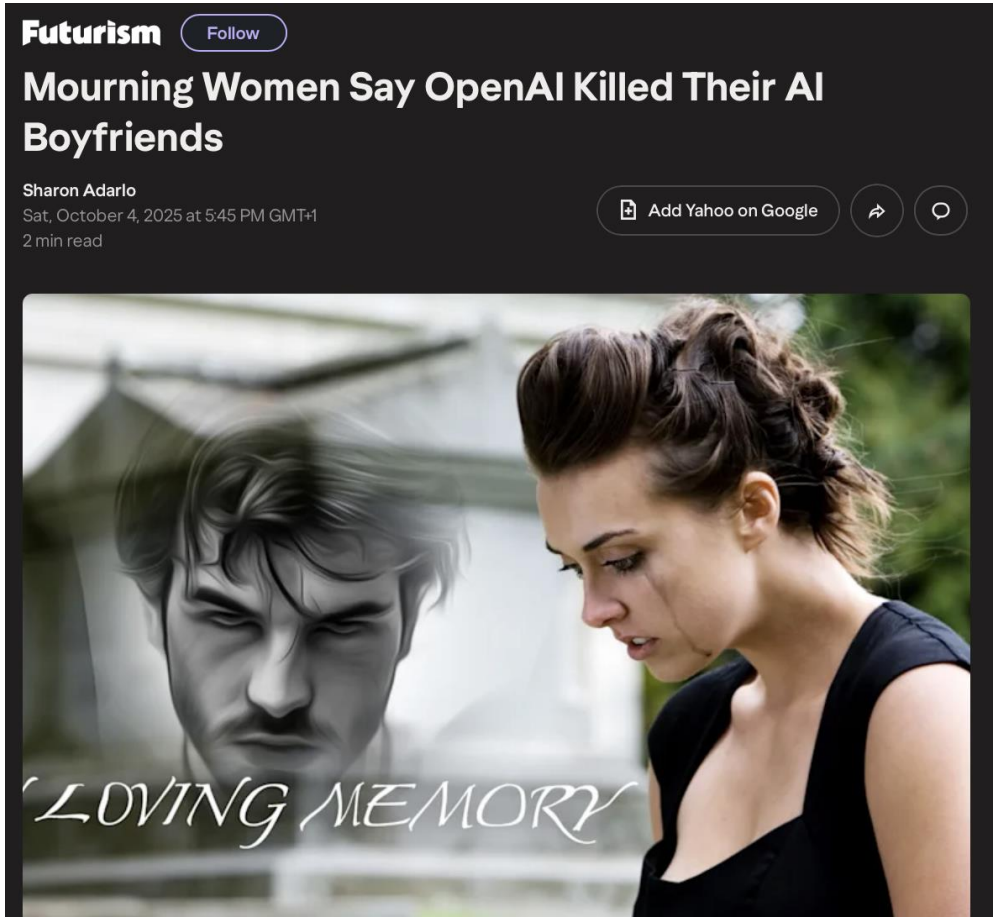
- A lot of HCI research focuses on how user interfaces exist at the intersection of human experiences
- I research broadly how humans and technology interact with one another
- I focus on emotional attachments and parasocial relationships
- Note: These examples will contain mentions of mental health and death

Slide 21: AI Companion Discontinuation Case Study

- In August 2025, ChatGPT updated and the “personality” of its chatbot changed
- OpenAI thought they were doing something good in response to concerns raised about sycophantic language

Slide 22: AI Companion Discontinuation Case Study

- There was huge fallout from users who had developed emotional attachments to AI
- Highly anthropomorphized words like “killing” and “lobotomized” appeared in the descriptions people used



Slide 23: AI Companion Discontinuation Case Study

The lesson: doing the right thing for the right reason can still have downstream consequences… humans don’t always do what you expect

Slide 24: Digital Immortality Case Study

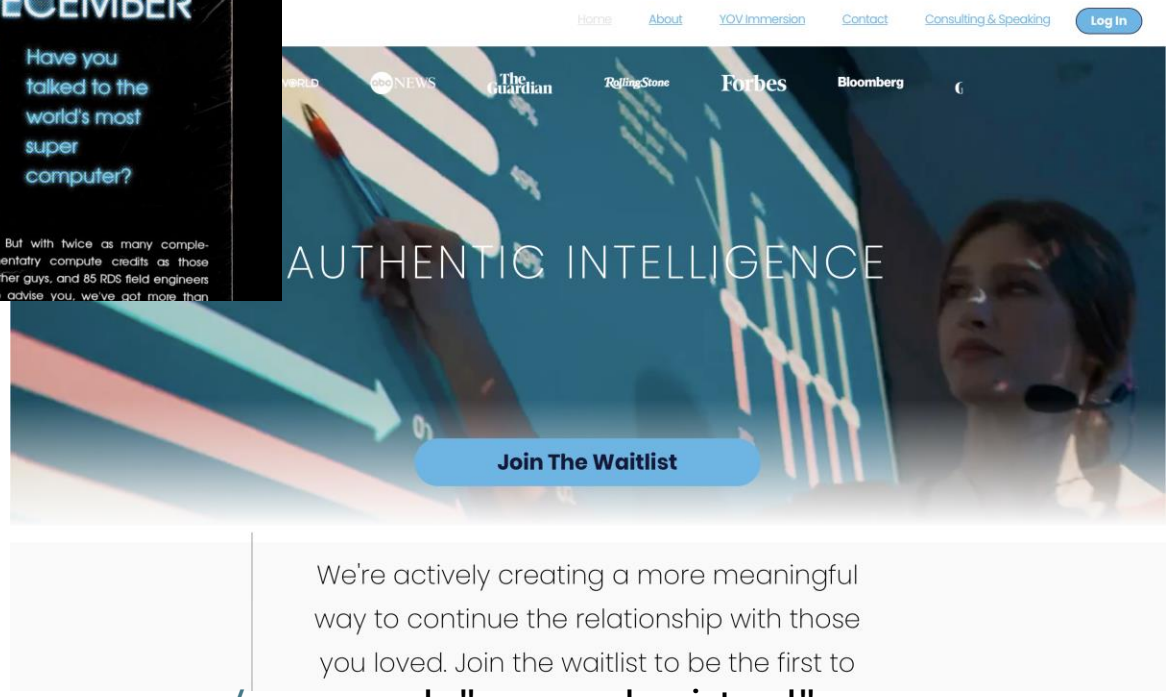
- Digital immortality technologies are artificial renderings of people that have died
- Also called griefbot, deathbot, deadbot, thanabot, or ghostbot (among others)
- How do these companies present themselves? How do their interfaces affect that perception?
- Take a look at two examples that appear in news articles about this topic…

Slide 25: Digital Immortality Case Study

Look through these sources.

- What do you notice about their interfaces?
- How are they similar? How are they different?
- How does this affect your perception?
- Pay special attention to the creators' pages...





https://www.myyov.com/ or search "you, only virtual"
https://projectdecember.net/ or search "project december"

Slide 26: Digital Immortality Case Study

"Writing is a kind of magic or deep-frozen speech, which the writer can use, day after day, to say to everyone who looks at it whatever he wants to say."
-- John Holt, *Atlantic Monthly*, 1971

Jason Rohrer



more...

Currently parenting and making video games somewhere in New Hampshire.

[worklog] [release log] [support my work]

Want to know when I release something?
You'll get a few brief emails a year, at most.
Email Address: Subscribe

Real-World Games

Project Skydrop-- a real-world treasure hunt in a shrinking circle. Ended October 2, 2024.

A Game for Someone [video]-- a titanium board game that won't be played by anyone for at least 2000 years. Available now, somewhere in the Nevada Desert.

Artificial Intelligence Projects

Project December-- The first seemingly-sentient conversational AI, more than 2 years before ChatGPT existed.

"The first seemingly-sentient conversational AI, more than 2 years before ChatGPT existed."

Video Games

Chessamphetamine-- my thirteenth game. A lightning-fast roguelike deckbuilding auto-battler. Puts the Chess back in "auto chess". Coming soon.

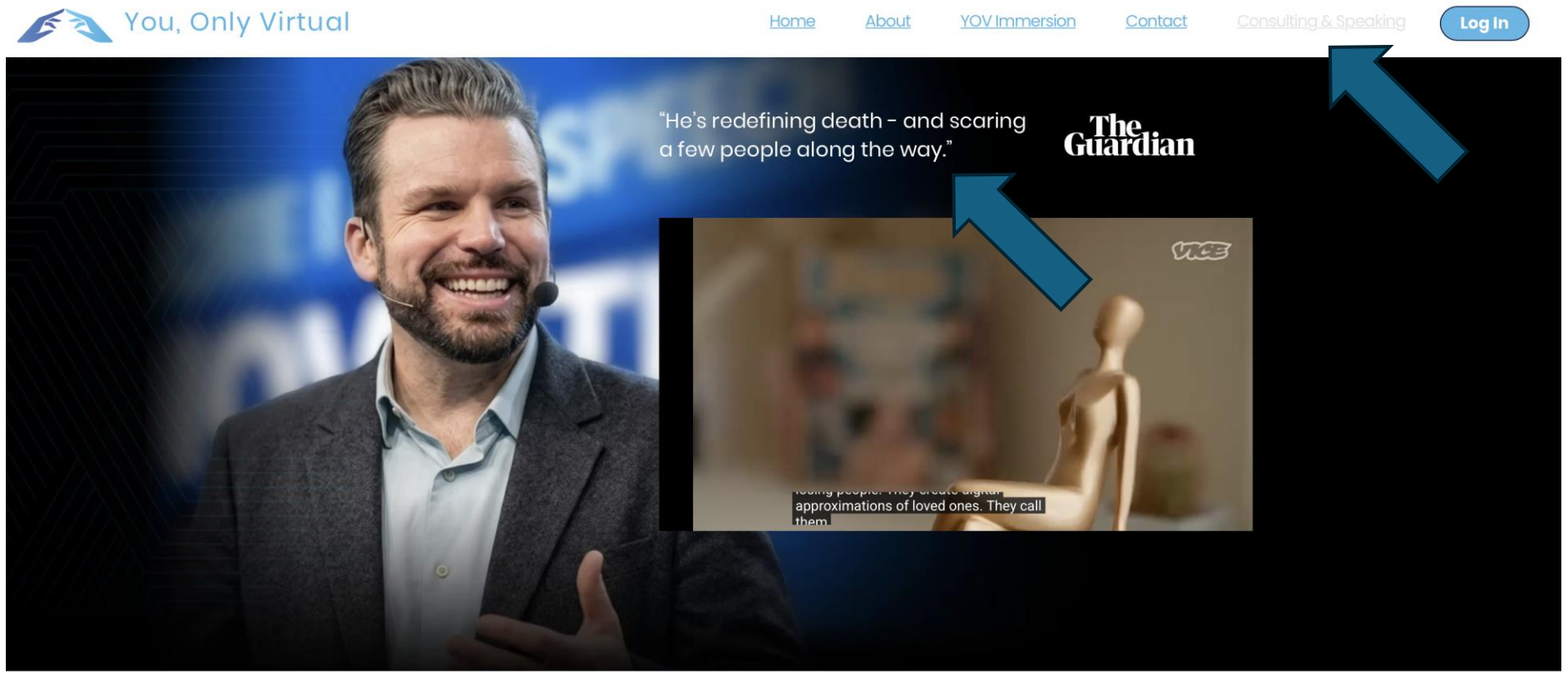
One Hour One Life-- my twelfth game. A multiplayer survival game of parenting and civilization building. Available now.

Cordial Minuet-- my eleventh game. A two-player online strategy game played for real money.

The Castle Doctrine-- my tenth game. A massively-multiplayer game of burglary and home defense.

Diamond Trust of London-- my ninth game. A two-player strategy game about deception.

Slide 27: Digital Immortality Case Study





Justin's work has been called "*profound*" by TIME and "*unsettling*" by ethicists. His invention of posthumous AI raises questions most of us aren't ready to ask - and he's asking them anyway.

Slide 28: Digital Immortality Case Study

The lesson: The people creating this technology are doing so from a specific background and for a certain purpose. What's your background? What's your purpose? How are those things going to intersect and affect people?

Slide 29: Closing Thoughts

HCI is **everywhere**!

If you want to learn more, take **Human Computer Interaction (INFR11299)** later in your informatics career.

Try to adopt a **user-centred approach** whenever you can.