



CSE 428

Human Computer Interaction

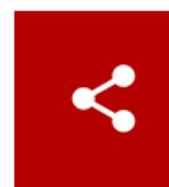
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Societal Implications

UI Hall of Fame and Shame

Tesla Autopilot detects speed limits and green lights

⌚ 31 August 2020



We've discussed usability principles like learnability, safety, and efficiency.

What about ethics? What is our responsibility in thinking through the societal implications of certain designs, whether good or bad?





This tech is framed in terms of **social good** - Tesla says their self-driving cars will make roads safer.

But what if unintended mistakes, like misidentifying traffic signs, can cause **real-world harm**?

We prize usability, and this car offloads burden from the driver. But when does this ease-of-use become dangerous?

(Un)intended Consequences of Design

What are unintended consequences?

- Intended by the designers and desired by the public?
- Unintended by the designers and desired by the public?
- Intended by the designers and undesired by the public?
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What are unintended consequences?

Example — Facebook

- **Intended** by the designers and **desired** by the public?

Catching up with friends' lives, sending status updates to friends, and chatting with them

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Many newer features started out homegrown: hashtags, marketplace, dating etc.

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Example — Facebook

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Catching up with friends' lives, sending status updates to friends, and chatting with them
- Unintended by the designers and desired by the public
Many newer features started out homegrown: retweets, hashtags, marketplace, etc.
- Intended by the designers and undesired by the public
Data harvesting and surveillance, and monetization of engagement via ads, tricks to get people to stay on the app or not delete their account
- Unintended by the designers and undesired by the public
Social media feedback loops that lead people to feel lonely due to social comparison, polarization due to engaging political propaganda and misinformation, clickbait and scams

Unfortunately, consequences can be hard to predict

- Both for good and bad consequences
- Sociologist Robert Merton's 5 sources of unintended consequences:
 - 1) Ignorance
 - 2) (Human) Error
 - 3) Imperious immediacy of interest
 - 4) Basic values
 - 5) Self-defeating prediction

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TECH

Facebook Is Still Prioritizing Scale Over Safety

Facebook often uses its vast size as an excuse for its failures. Meanwhile, it's ordering employees to make it bigger.



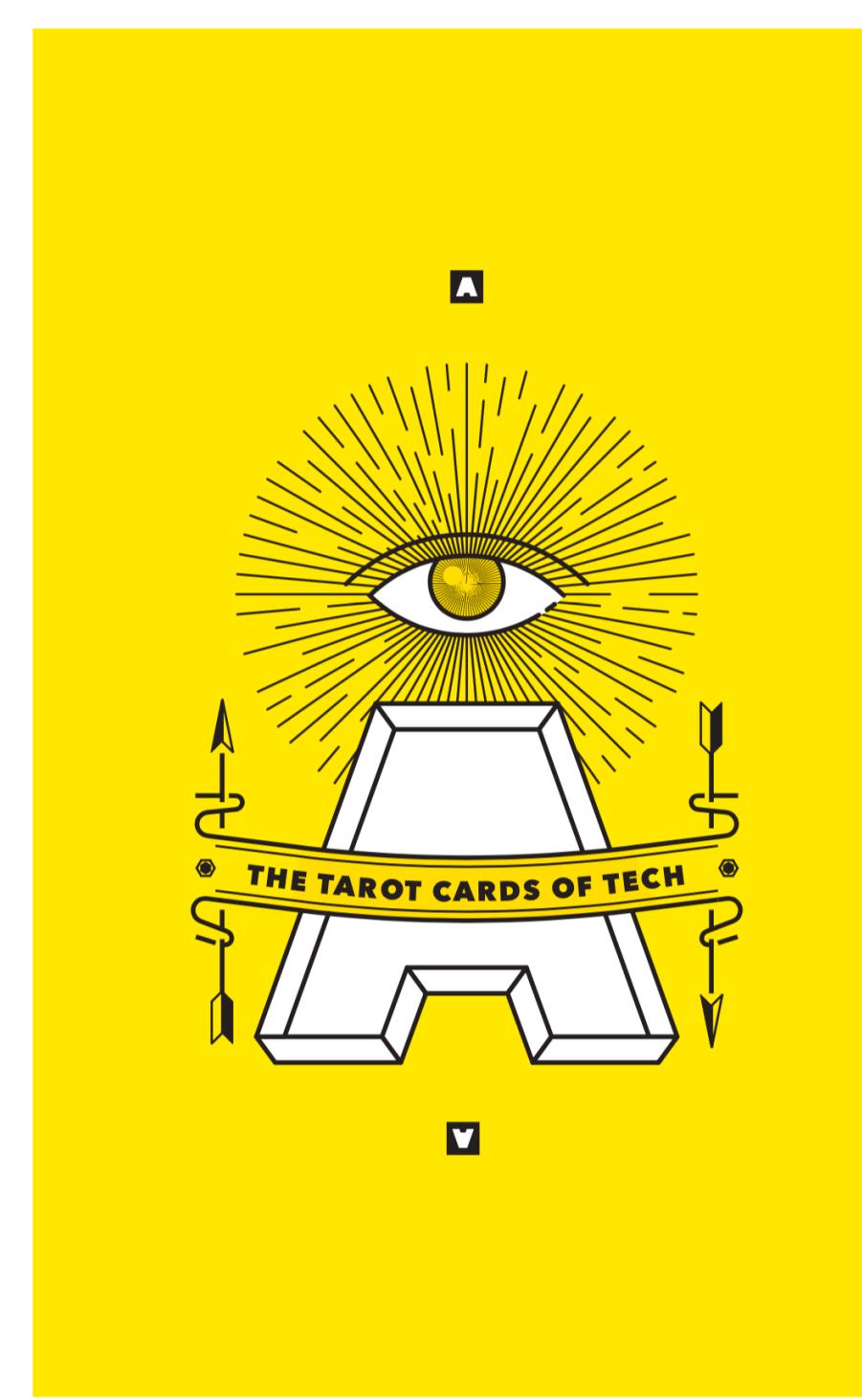
Alex Kantrowitz
BuzzFeed News Reporter

4) Basic values

Your values lead you to emphasize certain outcomes over others

unchanged. BuzzFeed News has learned the company continues to evaluate and compensate product managers based mostly on their ability to grow its products, with little regard to the impact of those products on the world. In fact, for Facebook, the very word “impact” is often defined by internal growth rather than external consequences and it uses growth metrics as key criteria for evaluating performance and determining compensation changes.

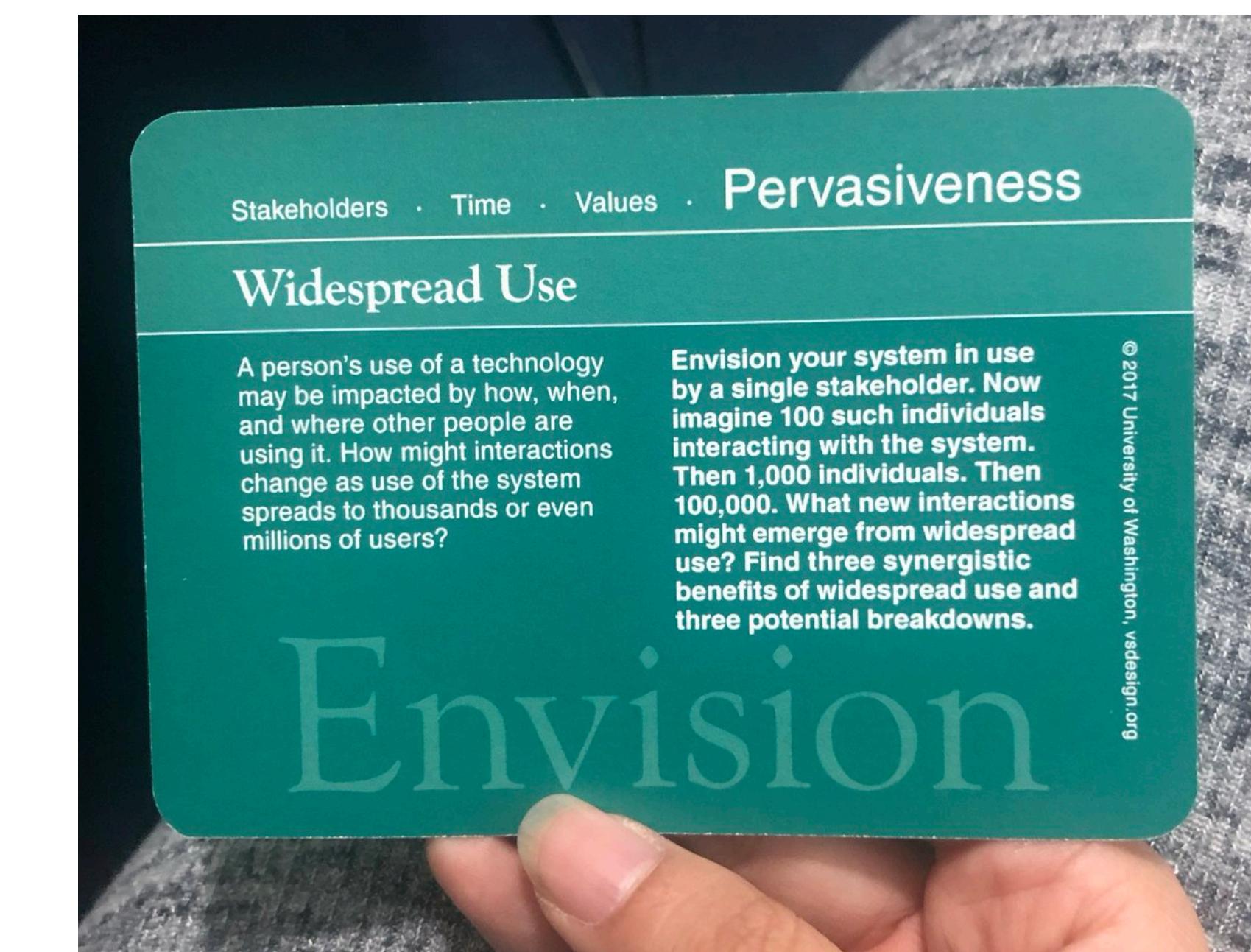
**How can we guard against
negative societal impacts?**



Actually think (speculate) about the potential negative impacts of your design!

Some ways to do so:

- Speculative fiction (a.k.a. Black Mirror!)
- Tarot Cards of Tech
- Value-Sensitive Design cards (by Batya Friedman in the iSchool)



Start thinking about it early and often.

If you do it too late, there may be too much momentum to stop the release of a product.

When shouldn't we build something?



Ask yourself if the negatives outweigh the positives.

ALL new technologies have some negative potential consequences. But some have little upside and lots of downside. Some negative consequences can be mitigated while others are inherent to the technology.

Hundreds of Silicon Valley engineers are pledging not to help Trump build a Muslim database

Rob Price Dec 14, 2016, 3:08 AM



Hundreds of engineers are [publicly pledging to refuse to help build a Muslim database in America](#), amid speculation that Donald Trump might ask Silicon Valley for help in monitoring America's Muslim population.



Chicago students protest Trump. Scott Olson/Getty Images

Amazon Workers Demand Jeff Bezos Cancel Face Recognition Contracts With Law Enforcement

By Kate Conger | 6/21/18 9:22PM | Comments (27)

Technology

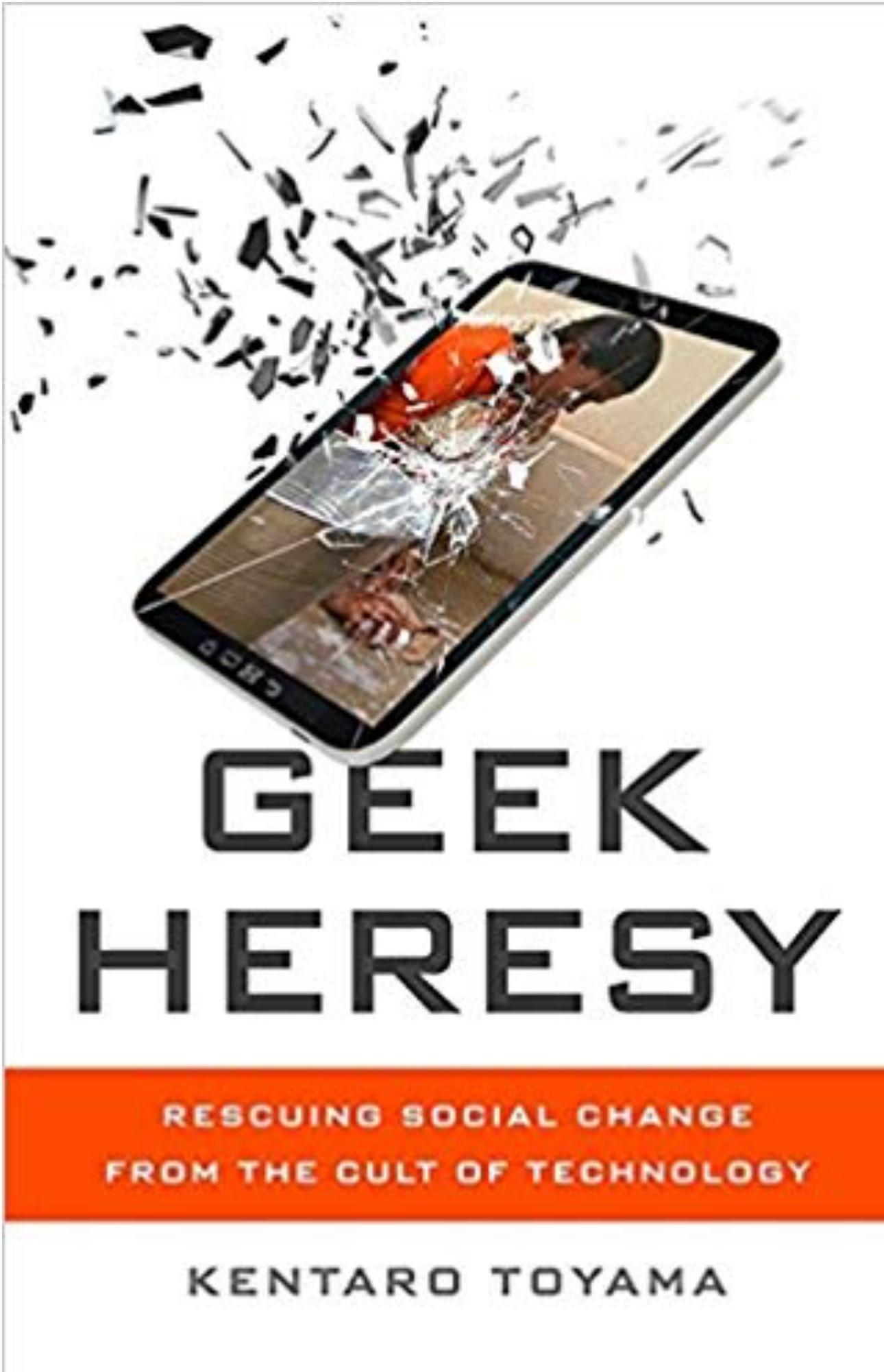
Amazon extends ban on police use of its facial recognition technology indefinitely

<https://catalog.archives.gov/id/6250638>

<https://gizmodo.com/amazon-workers-demand-jeff-bezos-cancel-face-recognition-1827037509>

<https://www.washingtonpost.com/technology/2021/05/18/amazon-facial-recognition-ban/>

Tech produces differential impacts.



Sometimes only parts of the population, such as those already marginalized, experience the negative consequence.

Sometimes the positive outcomes only go to certain privileged groups.

All of this can result in increased societal inequality.

Designing for Diversity and Accessibility

Easy to design for ourselves but what about designing for “all”?

- Design is fundamentally about **power**: granting ease of access to certain functions
- When you design for one population only and neglect others, you are **reconfiguring power**—increasing access for one population while setting up barriers for another
- When replicated at large, this can have the effect of exacerbating inequality.



<https://www.youtube.com/watch?v=9xmrJJESct8>

Ruha Benjamin:
interdisciplinary scholar of
technology and society

Designing for “all”

- **WEIRD** problem: when designs are made for people who are Westerners, Educated, Industrialized, Rich, and Democratic, which only represents about 12% of the world.

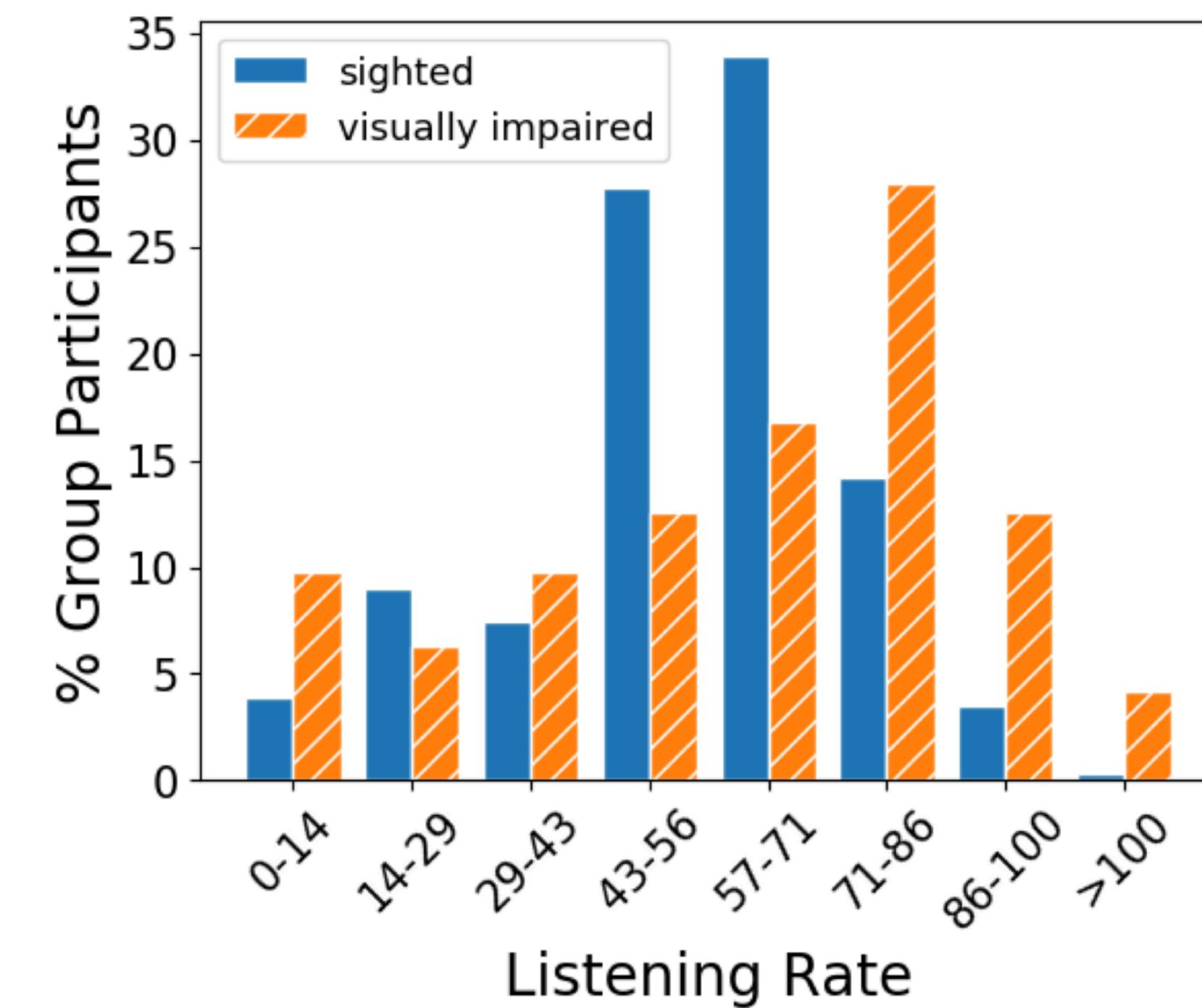
Example: Cultural preferences for websites



Example: Audio preferences for visually impaired



Amazon Alexa devices (left to right): Echo Dot, Echo, Echo Plus



People with Disabilities

Remember:

- 1 billion people worldwide
 - 15% of the world's population
- 50 million people in the U.S.
- This **will** include yourself if you are fortunate to live long enough to develop disabilities one day



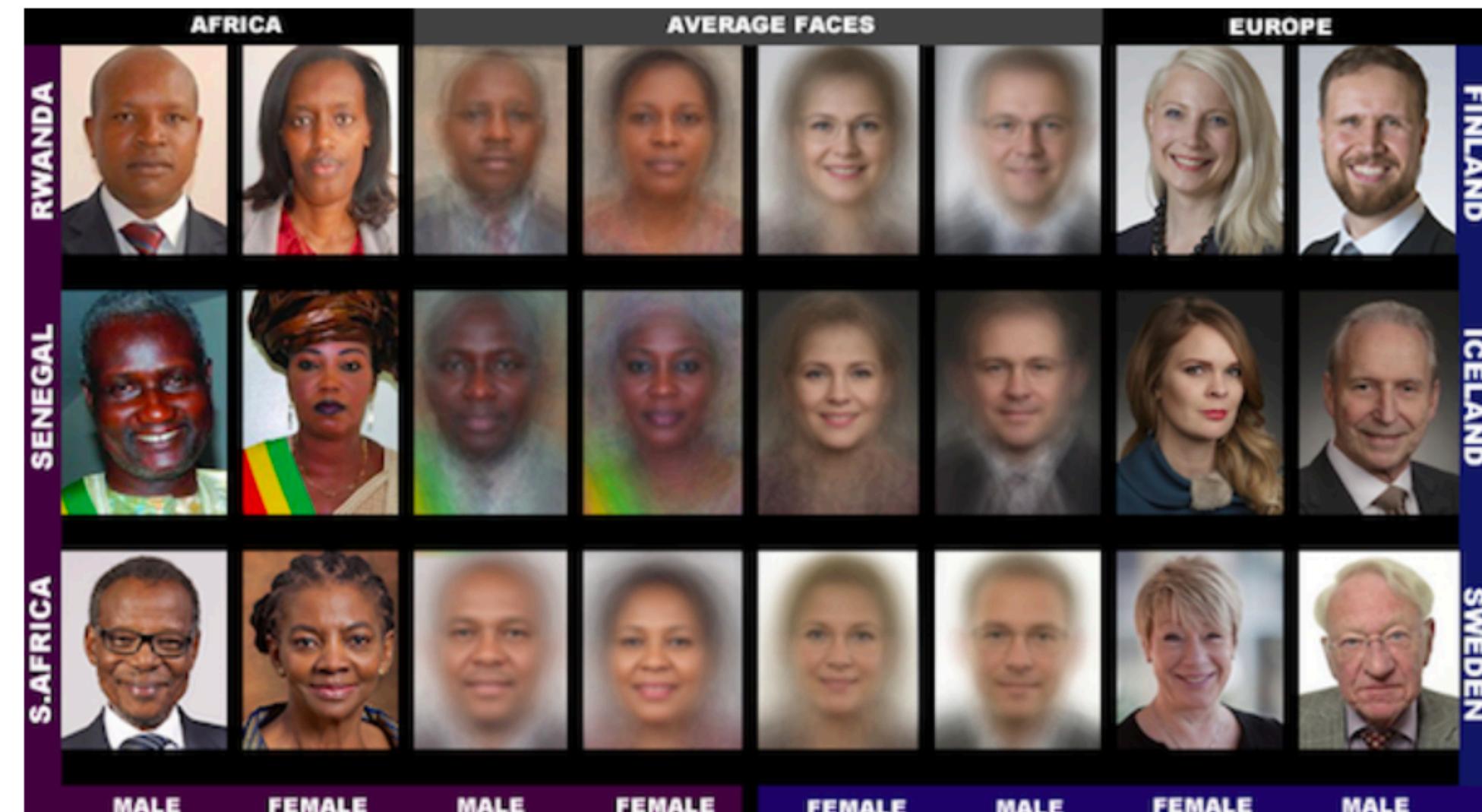
Chukwuemeka Afigbo @nke_ise · Aug 16, 2017

...

If you have ever had a problem grasping the importance of diversity in tech and its impact on society, watch this video



Example: Algorithms and sensors that discriminate based on skin tone or gender



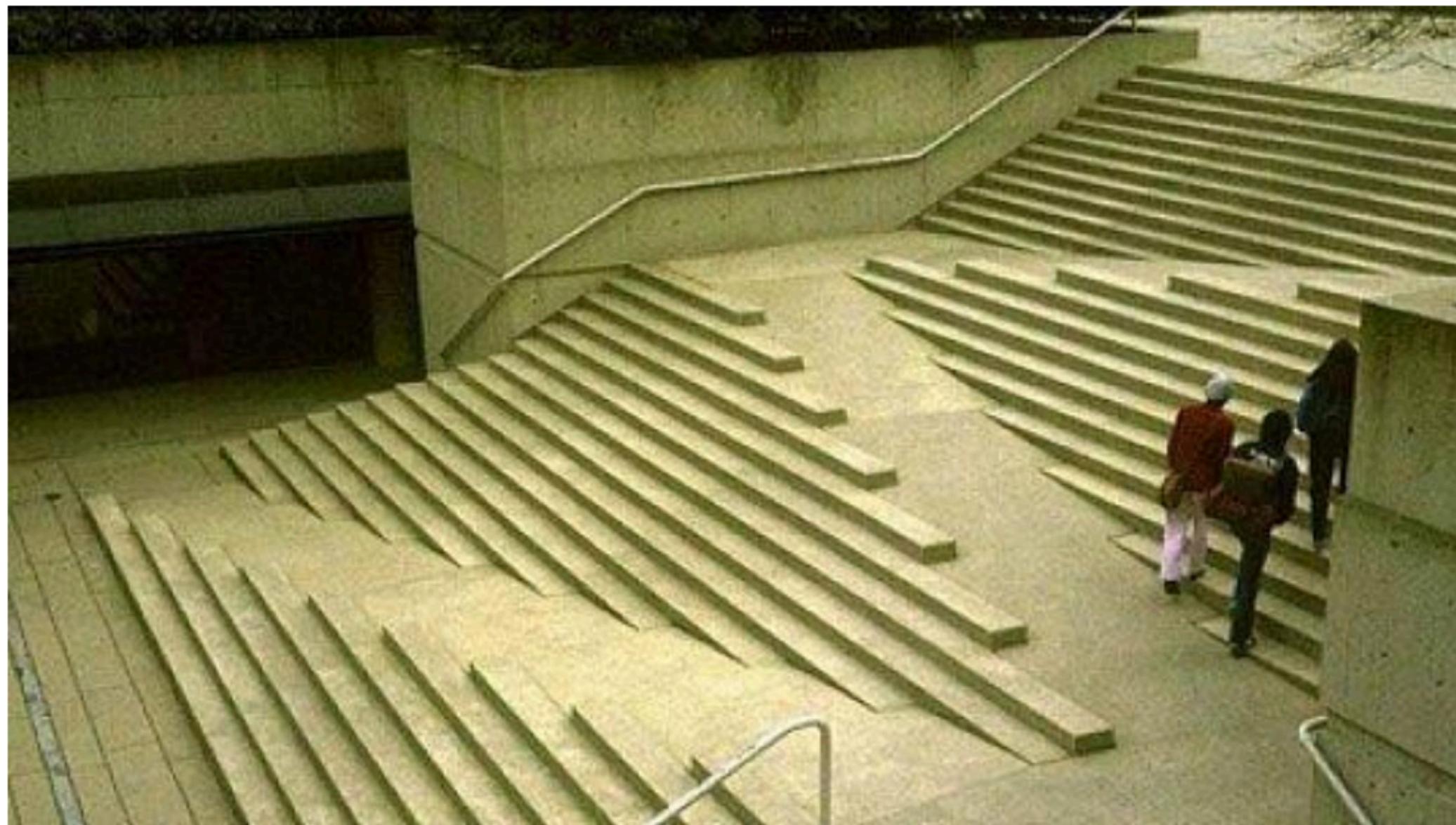
Pilot Parliaments Benchmark

<http://gendershades.org/>

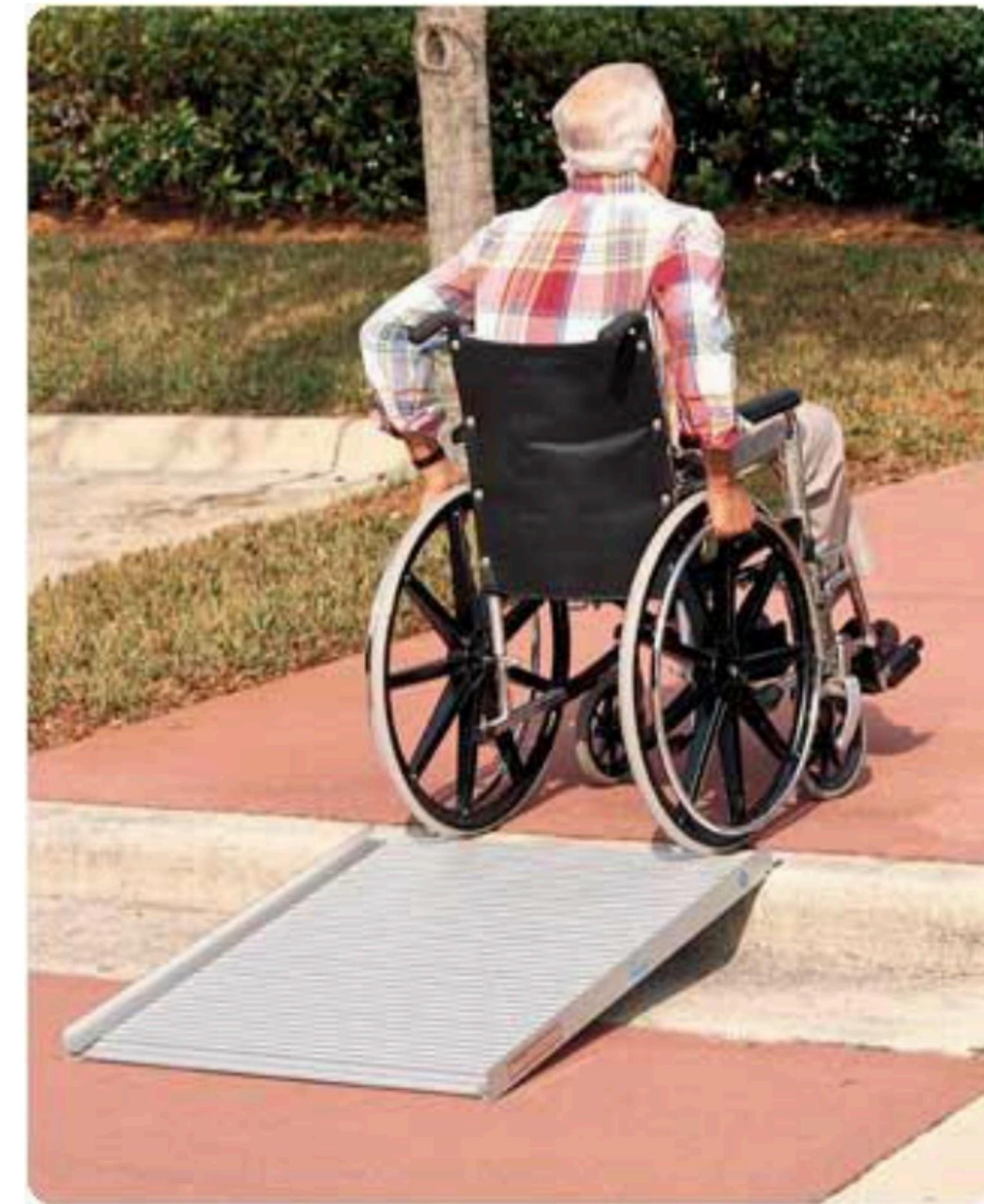
How to better design for diversity and accessibility?

- Study different preferences
- Test with marginalized users
- We've already talked about diversity in the design team
- A design that emphasizes one value/preference will disadvantage some other value
 - We could abandon the notion of one-size-fits-all or a “best” design
 - Instead, we could consider adaptive or malleable software designs that can adjust to match the abilities of the user
 - We could also make more designs that are each customized to a particular context
 - We could focus the design for the most marginalized populations

Universal Design vs. Assistive Technology

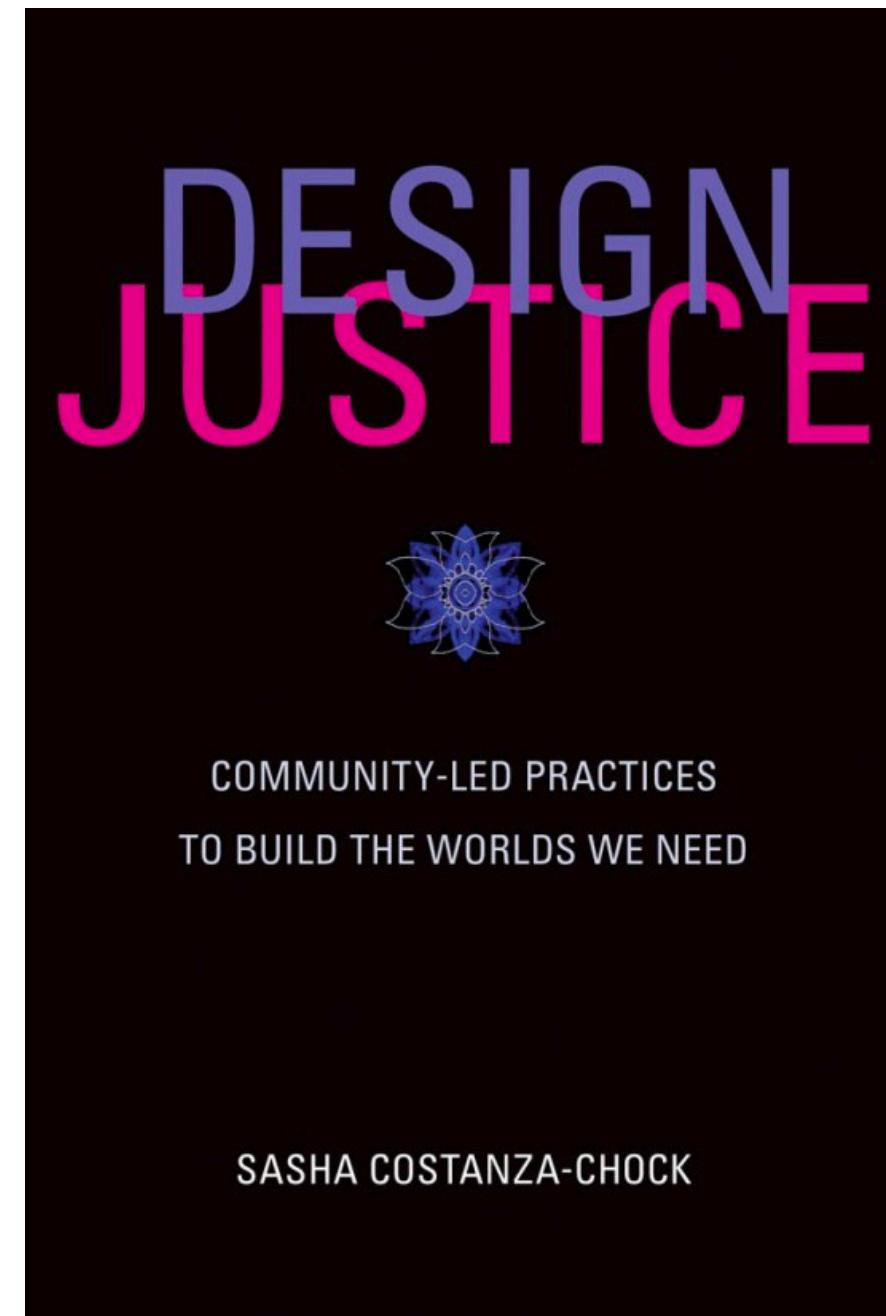


One-size-fits-all



One-size-fits-one

Specifically ethics as it relates to design:



Design Justice: Community-Led
Practices to Build the Worlds We Need
Book by Sasha Costanza-Chock

Jenny L. Davis

Free online: <http://design-justice.pubpub.org/>

How Artifacts Afford: The
Power and Politics of
Everyday Things
Book by Jenny Davis

HOW
ARTIFACTS
AFFORD



The Power and Politics
of Everyday Things

Activity + Group work time

We're about to put you in your groups for work time. Spend the first ~5-10 minutes on the following activity:

Randomly "draw" one tarot card from each row (so three cards in total). <http://tarotcardsoftech.artefactgroup.com/>

- Discuss your answers to the questions on the cards for your group's product.
- What insights have you gained from thinking through these questions? Anything that surprised you or challenged your thinking?
- How would these considerations impact your product design (whether just the tasks you focus on for the course or thinking ahead to if a fully-featured product was launched widely)





What are ‘Dark Patterns’?

Dark patterns (DP) are **deceptive** UI design tactics that **abuse** knowledge of **psychology** to alter user **decision-making** [1]

Examples of Dark Patterns

To exit full screen, press Esc

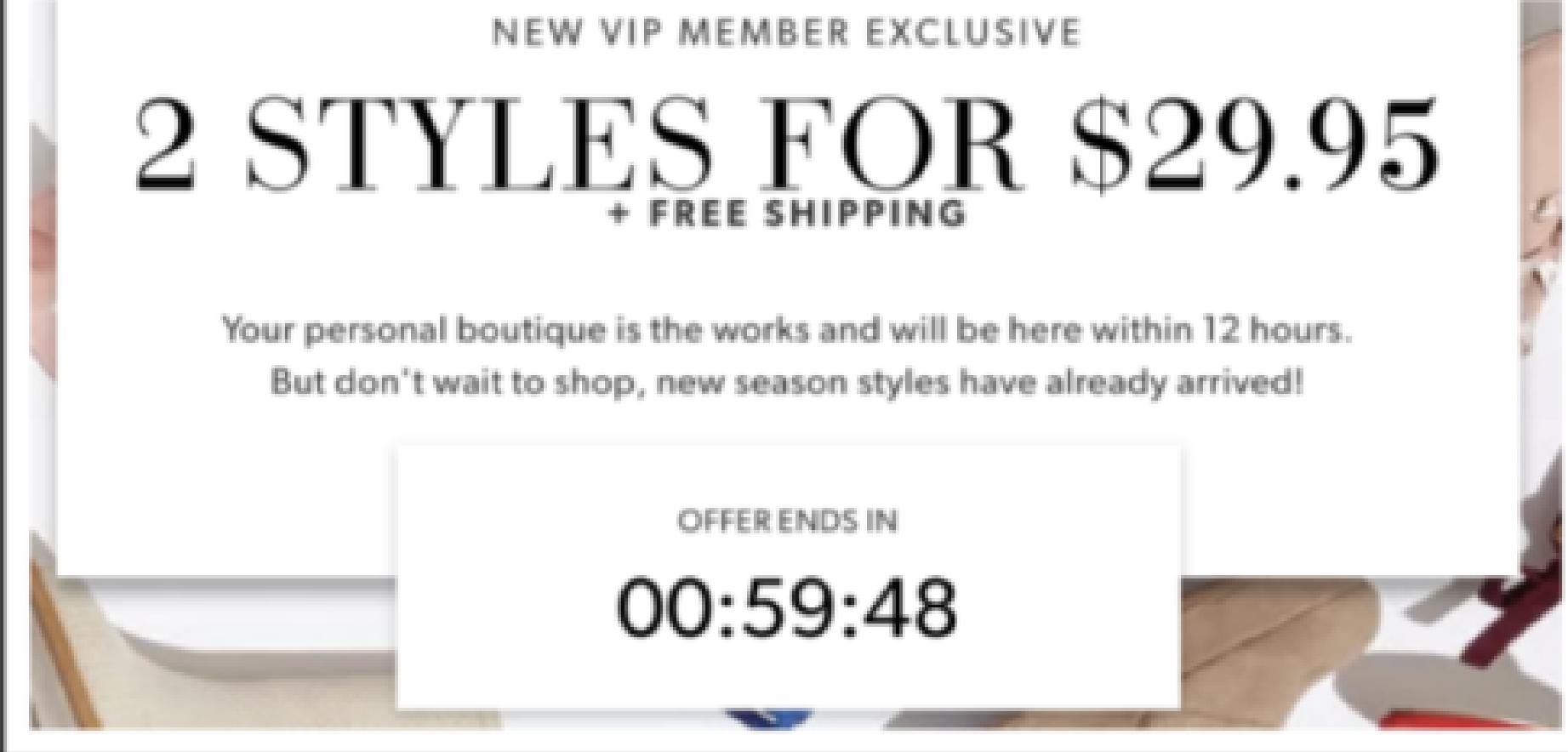
NEW VIP MEMBER EXCLUSIVE

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Your personal boutique is the works and will be here within 12 hours.
But don't wait to shop, new season styles have already arrived!

OFFER ENDS IN
00:59:48



Urgency

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Tk160

● Product ID: DSF-38
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1 ^ v

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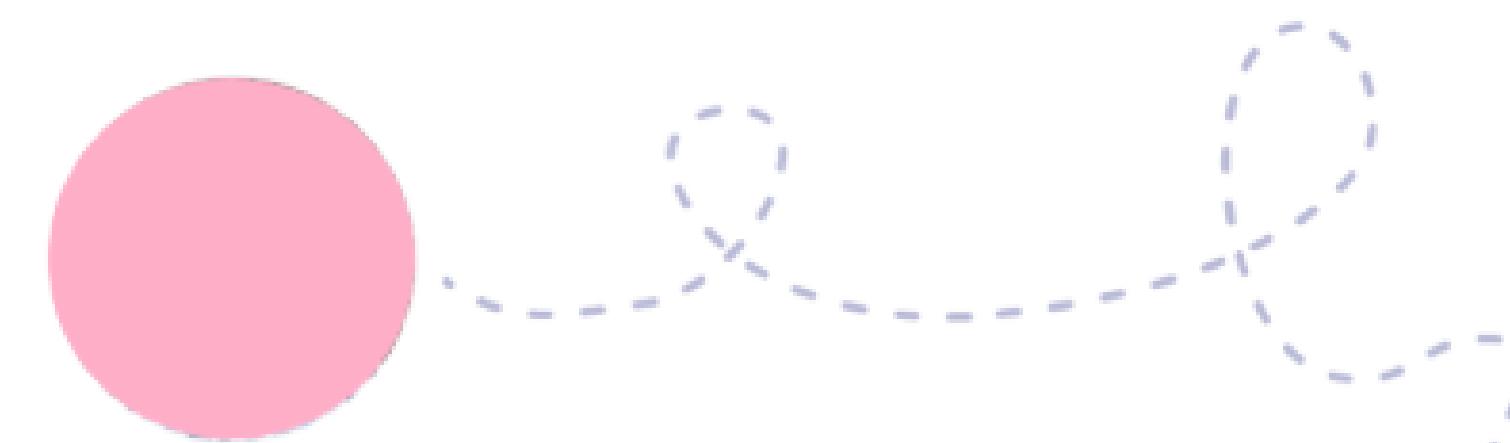
Sneaking

\$100 per month will renew on January 2, 2021.

Uh-oh, what happened?

We're bummed that you're unhappy with Baremetrics.

If you're 100% sure you want to cancel your account,
please call Brian at [\(855\) 252-6050](tel:(855)252-6050). Don't worry, he's not
a salesperson!



I changed my mind

Call Brian to cancel

Cancellation Insights

Not our

Obstruction

Prevalence and Impact

- Dark patterns are widespread across various digital platforms
 - **Social media** [10]
 - **E-commerce** - Mathur et al. found **dark patterns in 1,254 e-commerce websites** [2]
 - **Mobile apps** [11]
 - **Video games** [12]
- Dark patterns can manipulate users into decisions that are not in their best interests [2]
 - **Financial loss**
 - **Unnecessary sharing of personal data**
 - **Induction of addiction**

Countermeasures

- Developing **countermeasures** is important for user welfare [7]
 - Designer **guidelines**
 - User **awareness** and **education**
 - **Regulatory policy** making

**THANK
YOU**