

Human-Computer Interaction

# Privacy & Ethics

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# Today's Agenda

- » *Privacy*
- » *Ethics & Ethical Design*
- » Group discussion

*What is **privacy**?*

**Definition:** Privacy is the ability of an individual or group to seclude themselves or information about themselves, and thereby express themselves selectively.<sup>1</sup>

*Privacy is the claim of individuals, groups, or institutions to determine for themselves when, how, and to what extent information about them is communicated to others.*

~

*Each individual is continually engaged in a personal adjustment process in which [the individual] balances the desire for privacy with the desire for disclosure and communication.<sup>2</sup>*

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<sup>1</sup>Wikipedia

<sup>2</sup>Westin, 1967, Privacy and freedom



n & Dan Yankelovich<sup>3</sup>



## *The four functions of privacy<sup>2</sup>*

1. **Personal autonomy:** To avoid being manipulated, dominated, or exposed by others.
2. **Emotional release:** To let go emotions and tensions resulting from social demands.
3. **Self-evaluation:** To integrate experience into meaningful patterns and exert individuality on events.
4. **Limited & protected communication:** The former to set interpersonal boundaries and the latter to share personal information with trusted others.

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<sup>2</sup>Westin, 1967, Privacy and freedom

## *The four states of privacy<sup>2</sup>*

1. **Solitude:** The state of being free from observation by others.
2. **Intimacy:** The seclusion required for a close association.
3. **Anonymity:** The condition of being unknown and free from identification.
4. **Reserve:** The desire to limit disclosures to others.

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<sup>2</sup>Westin, 1967, Privacy and freedom

## Privacy Regulation Theory<sup>4</sup>

Privacy is not a static state of social withdrawal, but it is a dynamic process of regulating access to the self or to one's group.

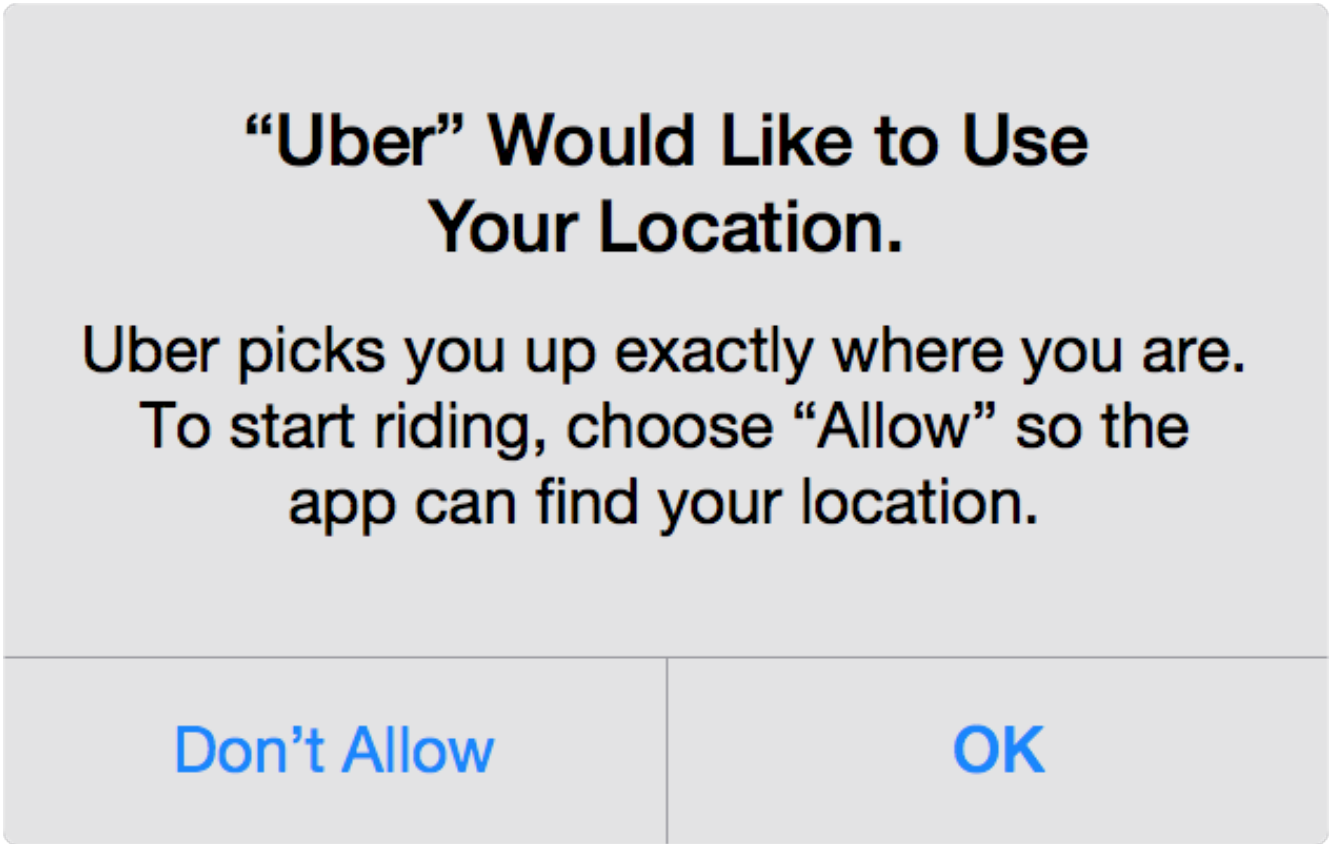
1. Temporal dynamic process of interpersonal boundary
2. Desired vs. actual levels of privacy
3. Non-monotonic function of privacy (more privacy  $\neq$  better)
4. Bi-directional nature of privacy (involving other inputs)
5. Two levels of privacy (individual, group)

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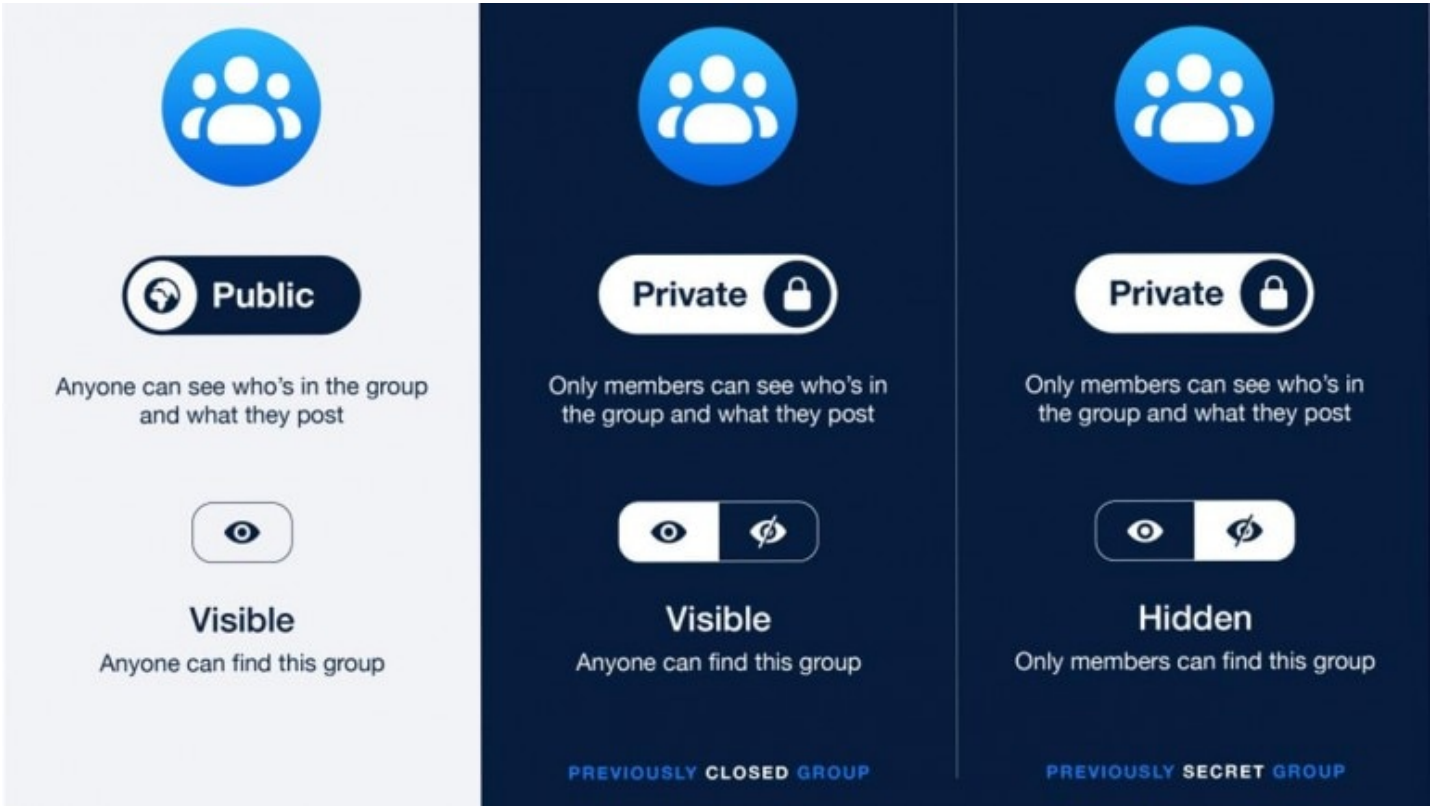
<sup>4</sup>Altman, 1975, The environment and social behavior

Two Views of Privacy<sup>5 6</sup>

**Limiting access:** minimizing how much access people have to us or information about us



**Controlling access:** having control over who gets access to us or information about us



<sup>5</sup>Lorrie Cranor

<sup>6</sup>Image source: Left, Right

*What do people think about privacy?<sup>7</sup>*

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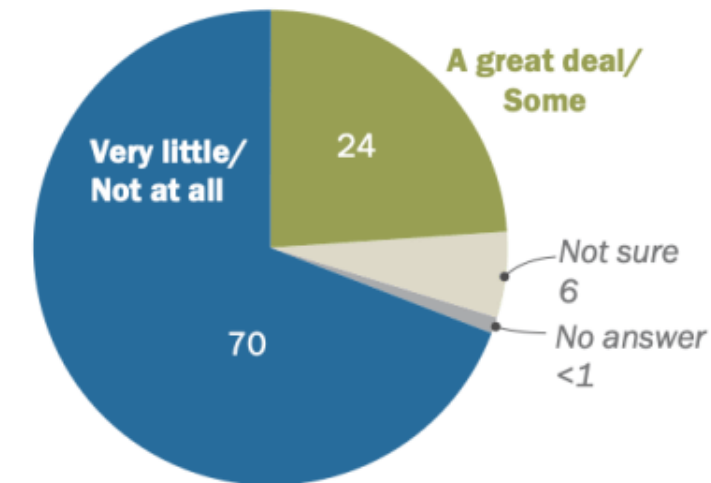
<sup>7</sup>Pew Research Center, November 2023, [Key findings about Americans and data privacy](#)

*Many Americans have little trust in companies to use AI responsibly*

- » ~70 % who know of AI say they have little to no trust that companies will make responsible decisions.
- » ~81 % say collected information will be used in ways they're uncomfortable with.
- » ~80 % say data will be used for purposes other than originally intended.
- » Yet ~62 % acknowledge AI could make life easier.

## **Most Americans who have heard of AI don't trust companies to use it responsibly and say it will lead to unease and unintended uses**

*Among those who have heard of artificial intelligence, % who say they **trust companies to use AI responsibly** ...*



*Among those who have heard of AI, % who say that as companies use AI to collect and analyze personal information, this information **will** be used in ways that ...*



Note: "Definitely/probably will happen" are combined. Figures may not add up to 100% due to rounding. Those who did not give an answer or who gave other responses are not shown.  
Source: Survey of U.S. adults conducted May 15-21, 2023.  
"How Americans View Data Privacy"

**PEW RESEARCH CENTER**

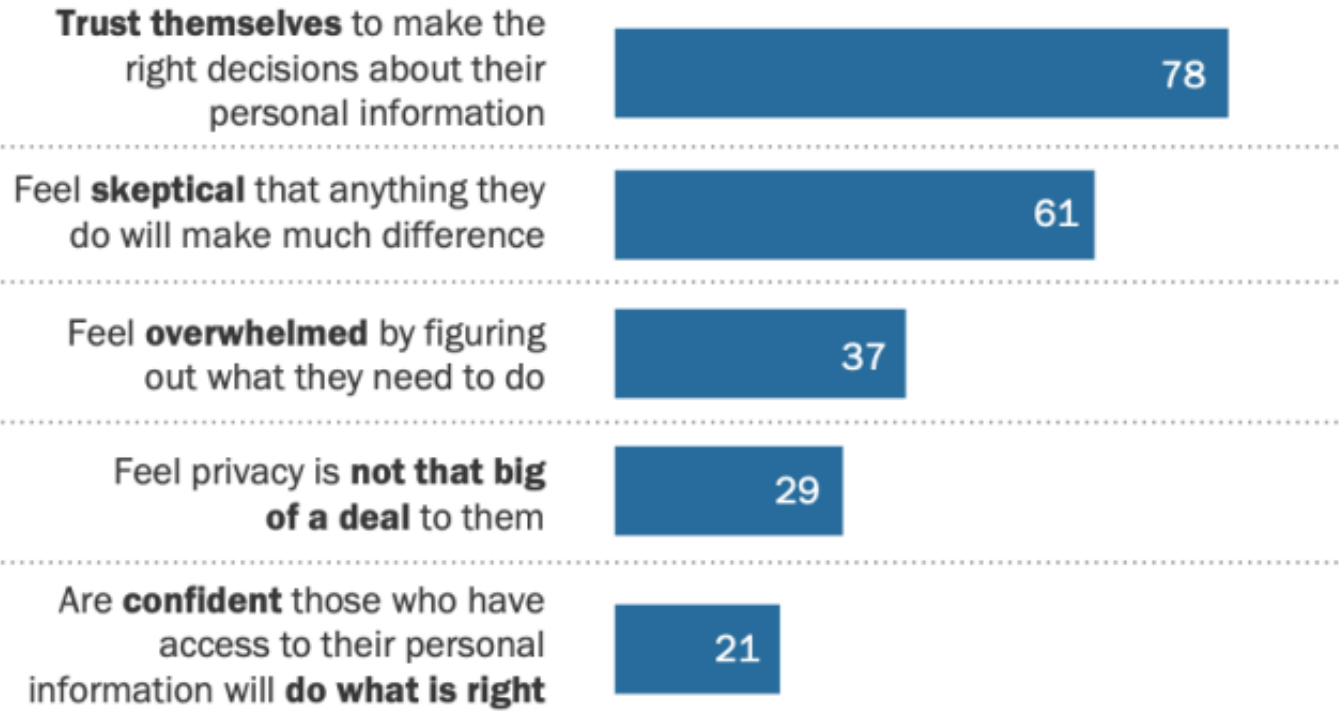


*Many trust themselves to make the right decisions but are skeptical their actions matter*

- » ~78 % say they trust themselves to protect their personal info.
- » ~61 % say their actions won't make much difference.
- » Only ~20 % believe that those with their data will treat it responsibly.

**Many trust themselves to make the right privacy decisions but are also skeptical their actions matter**

*% of U.S. adults who say that when they think about managing their privacy online, they ...*



Note: Those who did not give an answer or who do not use the internet are not shown.  
Source: Survey of U.S. adults conducted May 15-21, 2023.  
"How Americans View Data Privacy"

**PEW RESEARCH CENTER**

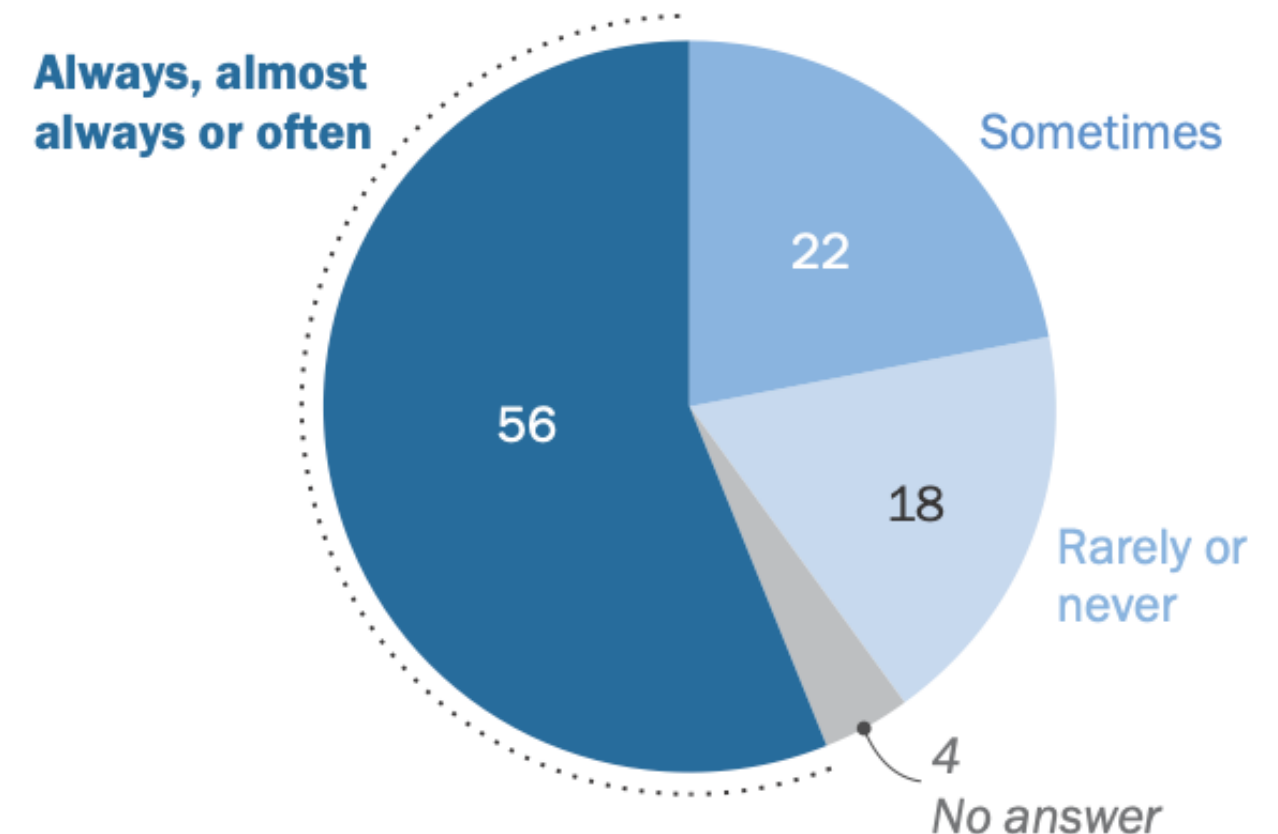


*More than half often click “agree” without reading privacy policies*

- » ~56 % say they always, almost always or often click “agree” without reading.
- » 22 % do this sometimes; 18 % rarely or never.

## Nearly 6 in 10 Americans frequently skip reading privacy policies

*% of U.S. adults who say they \_\_\_ agree to online privacy policies right away, without reading what the policies say*



Note: Figures may not add up to 100% due to rounding. “No answer” includes those who did not give an answer or who do not use the internet.

Source: Survey of U.S. adults conducted May 15-21, 2023.  
“How Americans View Data Privacy”

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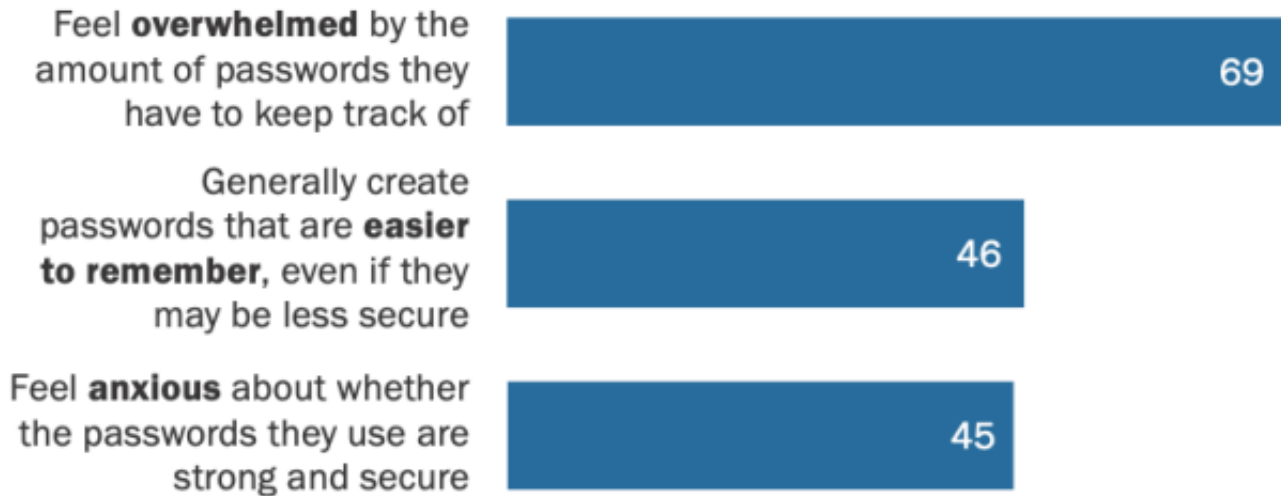
*People are largely skeptical that privacy policies explain how companies use their data*

- » ~61 % believe privacy policies are ineffective at explaining how companies use data.

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**Many Americans are overwhelmed by keeping up with passwords – and nearly half forgo secure ones**

*% of U.S. adults who say they ...*



Note: Those who did not give an answer or who do not use the internet are not shown.  
Source: Survey of U.S. adults conducted May 15-21, 2023.  
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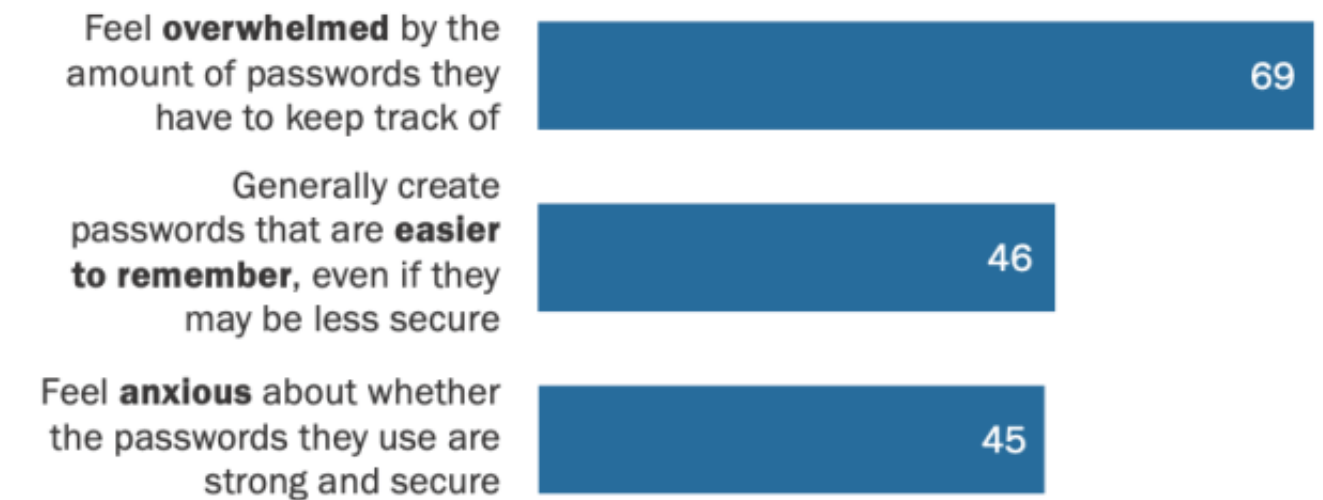
*Many are overwhelmed by passwords — and many choose convenience over security*

- » ~70 % (about 7-in-10) say they feel overwhelmed by remembering all their passwords.
- » ~45 % report anxiety about whether their passwords are strong.
- » Only ~50 % say they typically choose more secure (harder) passwords; ~46 % choose easier-to-remember (less secure) ones.

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### Many Americans are overwhelmed by keeping up with passwords – and nearly half forgo secure ones

*% of U.S. adults who say they ...*



Note: Those who did not give an answer or who do not use the internet are not shown.

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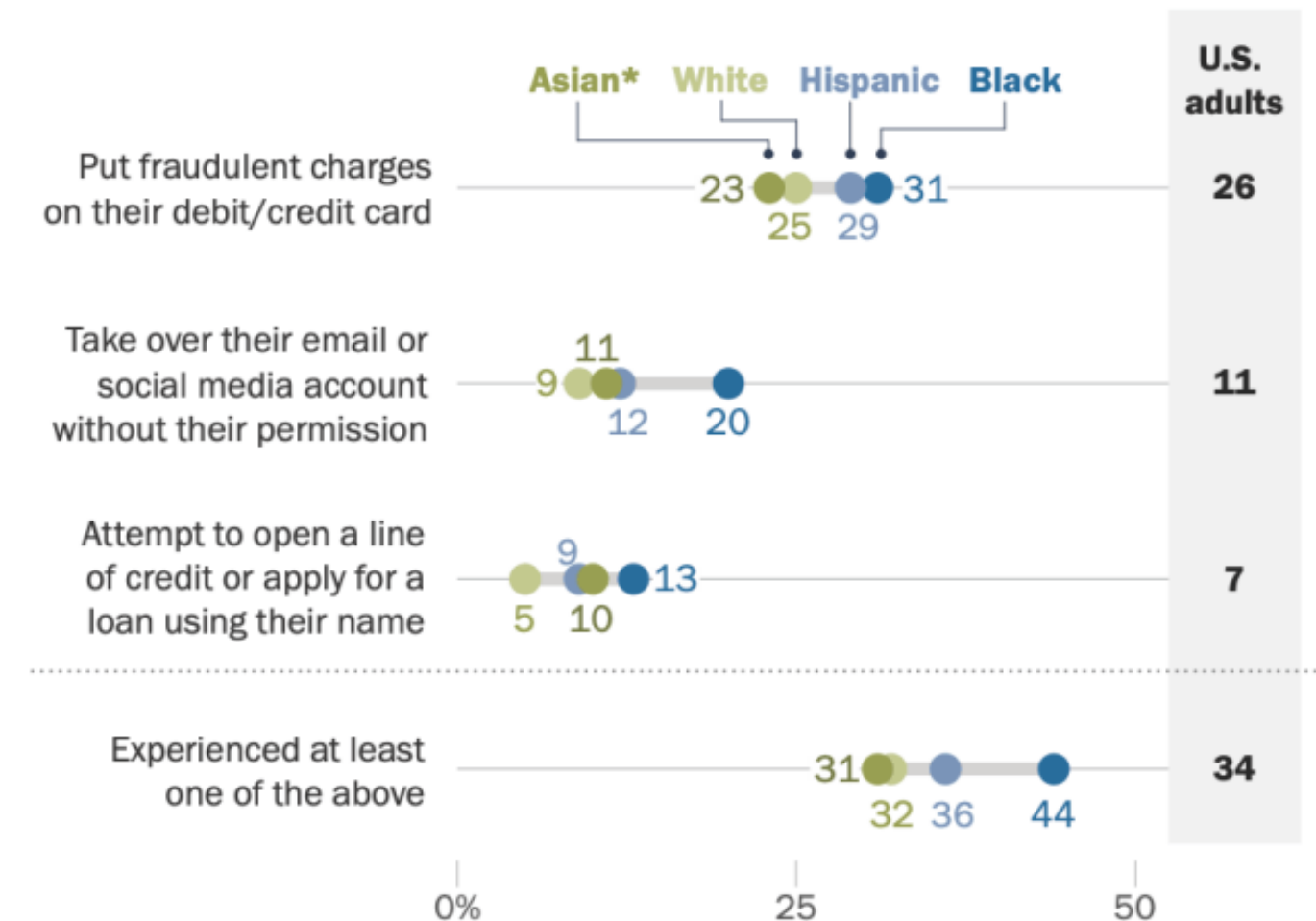
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*A significant share of Americans have experienced data breaches or fraud in the past year*

- » ~26 % say someone made fraudulent charges on their debit/credit card in past 12 months.
- » ~11 % say someone took over their email or social media account without permission.
- » ~7 % say someone attempted to open a line of credit or apply for a loan using their name.
- » Overall ~34 % say they experienced at least one of those.
- » Black adults are more likely to report such experiences than other racial/ethnic groups.

## Black adults are more likely than other racial and ethnic groups to say they have dealt with an online hack in the last 12 months

*% of U.S. adults who say that in the last 12 months, they had someone ...*



\* Estimates for Asian adults are representative of English speakers only.

Note: White, Black and Asian adults include those who report being only one race and are not Hispanic. Hispanic adults are of any race. Those who did not give an answer are not shown.

Source: Survey of U.S. adults conducted May 15-21, 2023.

"How Americans View Data Privacy"

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*Americans have little faith that social media executives will protect user privacy*

- » ~77 % say they have little or no trust that social media company leaders will admit mistakes & take responsibility for data misuse.
- » ~71 % say they have little or no trust that tech leaders will be held accountable by government.

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## Most Americans don't trust social media CEOs to handle users' data responsibly

*% of U.S. adults who say they have **very little or no trust at all** that leaders of social media companies will ...*

**Publicly admit mistakes and take responsibility** when they misuse or compromise users' personal data

**77%**

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**Not sell users' personal data to others** without their consent

**76%**

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**Be held accountable by the government** if they misuse or compromise users' personal data

**71%**

Note: Those who did not give an answer or who gave other responses are not shown.

Source: Survey of U.S. adults conducted May 15-21, 2023.  
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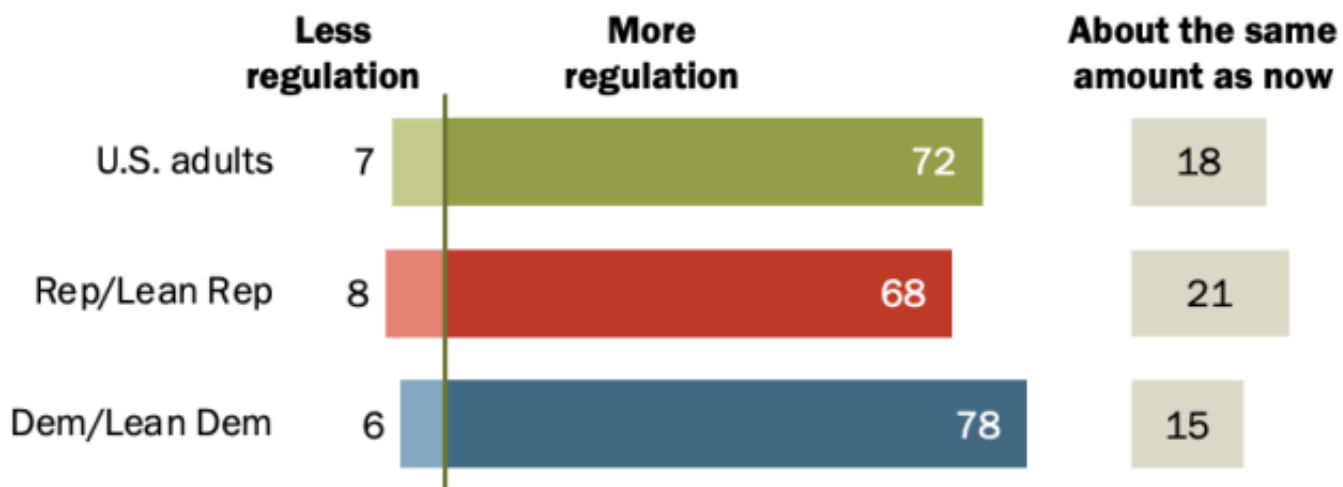


*There is bipartisan support for more regulation of companies' use of personal information*

- » ~78 % of Democrats and ~68 % of Republicans say there should be **more** government regulation of what companies can do with customers' personal data.
- » These levels are similar to findings in 2019.

**Broad partisan support for more regulation of how consumer data is used**

*% of U.S. adults who say there should be \_\_\_ government regulation of what companies can do with their customers' personal information*



Note: Those who did not give an answer are not shown.  
Source: Survey of U.S. adults conducted May 15-21, 2023.  
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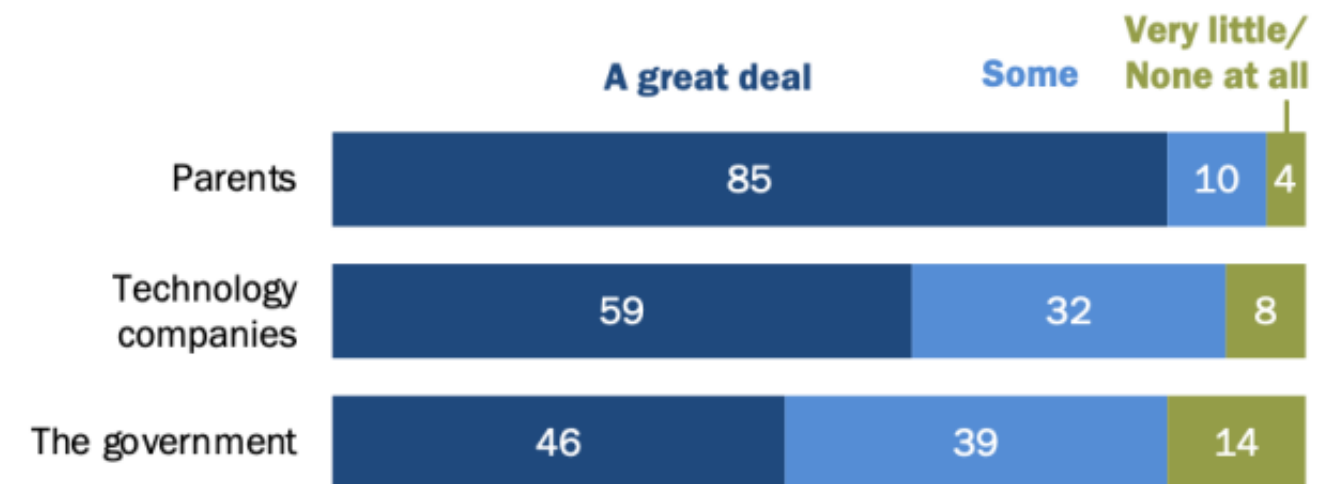
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## Social media & kids' data worry people the most

- » 89% worry about social media sites knowing personal info about children
- » ~85% worry about advertisers and online games tracking kids' activities
- » 85% say parents — and ~6-in-10 say tech companies — should have *a great deal* of responsibility for protecting children's online privacy

### Majority of Americans say parents and technology companies should have a great deal of responsibility for protecting children's online privacy

% of U.S. adults who say the following groups should have \_\_\_ (of) responsibility for protecting children's online privacy



Note: Those who did not give an answer are not shown.  
Source: Survey of U.S. adults conducted May 15-21, 2023.  
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*What does the law say about privacy?*

1. US Privacy Act (1974), HIPAA (1996), GLBA (1999), COPPA (2000)
2. General Data Protection Regulation (GDPR) (2016)
3. OECD Privacy Guidelines (2013)
4. Many new laws enacted by US states, e.g., California Consumer Privacy Act (CCPA) (2018)



## *US Privacy Act (1974)*<sup>8</sup>

- » Right of US citizens to access any data held by government agencies and a right to copy that data
- » Right of citizens to correct any information errors
- » Agencies should follow data minimization principles when collecting data—the least amount of information to accomplish its purposes
- » Access to data is restricted on a need to know basis, e.g., employees who need the records for their job role
- » Sharing of information between other federal (and non-federal) agencies is restricted and only allowed under certain conditions

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<sup>8</sup>Varonis

## GDPR<sup>9</sup>

Personal data may not be processed unless (see Article 6):

1. The data subject has given consent;
2. Contractual obligations with the data subject require it;
3. To comply with a data controller's legal obligations;
4. To protect the vital interests of a data subject or another individual;
5. To perform a task in the public interest or in official authority;
6. For the legitimate interests of a data controller or a third party, unless these interests are overridden by interests of the data subject or her or his rights according to the Charter of Fundamental Rights.

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<sup>9</sup>Wikipedia

*The EU AI Act<sup>27</sup> (effective from August 2024, with full applicability in 2026)*

Regulation focused on safety, transparency, and ethical use of AI within the EU. Risk-based approach to regulate AI applications and imposes strict rules on high-risk systems.

*The EU Data Act<sup>24</sup> (effective from September 2025)*

Introduces rules on data access, sharing, and portability, specifically for connected devices and the Internet of Things (IoT). Covers both personal and non-personal data.

*The Digital Services Act (DSA)<sup>25</sup> and Digital Markets Act (DMA)<sup>26</sup> (effective from late 2022)*

Regulations that create a safer digital space by establishing transparency rules for online platforms (DSA) and imposing obligations on large "gatekeeper" platforms to ensure fair competition and data handling (DMA).

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<sup>27</sup> The EU Artificial Intelligence Act

<sup>24</sup> EU Data Act

<sup>25</sup> The Digital Services Act (DSA)

<sup>26</sup> The Digital Markets Act (DMA)

*What do these mean?*

Two conclusions can be drawn:

1. In general, legal protections (e.g., CCPA, GDPR) and guidelines (e.g., OECD) are being put into place to protect user privacy.
2. Usable privacy and security (research and practice) are going to be increasingly important (and a requirement).

## What is **usable privacy and security**?

Let's look at some definitions:

**Usable privacy** refers to the extent to which a product or a service protects the privacy of the users in an efficient, effective, and satisfactory way by taking into consideration the particular characteristics of the users, goals, tasks, resources, and the technical, physical, social, cultural, and organizational environments in which the product/service is used.<sup>10</sup>

**Usable security** "deals with making sure that security products and processes are usable by those who need them (in this case almost everyone with a computer)."<sup>11</sup>

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<sup>10</sup> ISO 9241-11:2018

<sup>11</sup> Wharton, 2007, Usable Security

*What does usable privacy research look like?*

Some examples:

1. *Privacy from individuals*: Freed et al., 2018, [A Stalker's Paradise](#)
2. *Privacy from organizations*: Chandrasekaran et al., 2018. [PowerCut and Obfuscator](#); Sleeper et al., 2015, [Attitudes Toward Vehicle-Based Sensing and Recording](#)
3. *Privacy from governments*: Dufaux et al., 2008, [Scrambling for privacy protection in video...](#)



*Other phenomena:*

**Privacy Paradox:** *While users claim to be very concerned about their privacy, they nevertheless undertake very little to protect their personal data.*<sup>12</sup>

**Privacy Profiles:** Westin's classification of privacy attitudes:<sup>13</sup>

1. Privacy fundamentalists — 19.28% (latest data from 2019)<sup>14</sup>
2. Privacy pragmatists — 74.28%
3. Privacy unconcerned — 6.42%

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<sup>12</sup> Barth & Jong, 2017, The Privacy Paradox

<sup>13</sup> Kumaraguru & Cranor, 2005, Privacy Indexes: A Survey of Westin's Studies

<sup>14</sup> Javed et al., 2019, Alexa's Voice Recording Behavior

*What is **ethics** and **ethical design**?*



## *Technologies carry values*

- » Technologies are not neutral artifacts, they can encode the values or politics of their makers<sup>15</sup>
- » Design decisions often reflect designer values, assumptions, incentives (intentionally or not)<sup>16</sup>
- » Technologies actively mediate actions and perceptions<sup>17</sup>

*Technologies may be designed for the values of creators and not users or society.*

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<sup>15</sup> Winner, L. (2017). Do artifacts have politics? In *Computer ethics* (pp. 177–192).

<sup>16</sup> Albrechtslund, A. (2007). Ethics and technology design. *Ethics and information technology*, 9(1), 63–72.

<sup>17</sup> Verbeek, P. P. (2008). Morality in design: Design ethics and the morality of technological artifacts. In *Philosophy and design: From engineering to architecture* (pp. 91–103).

## *What is technology ethics?*

**Definition:** The study of how technologies enable, constrain, or transform human actions, decisions, and relationships,<sup>15 16</sup> and of how design should respond to this responsibility.<sup>18</sup>

## *What is ethical design?*

**Definition:** A design approach that seeks to align technologies with the lived values, well-being, and moral agency of the people who use them and of society broadly,<sup>15 17</sup> while acknowledging that use contexts are complex, relational, and only partly foreseeable.<sup>16</sup>

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<sup>16</sup> Albrechtslund, A. (2007). Ethics and technology design. *Ethics and information technology*, 9(1), 63–72.

<sup>18</sup> Leo XIII (1891) Papal Encyclical RERUM NOVARUM: Rights and Duties of Capital and Labour.

<sup>17</sup> Verbeek, P. P. (2008). Morality in design: Design ethics and the morality of technological artifacts. In *Philosophy and design: From engineering to architecture* (pp. 91–103).

## *Historical roots of ethical & responsible design*

- » Industrial Revolution raised questions about how “new things” reshape dignity, work, inequality
- » Early principles for responsible technological change:<sup>18</sup>
  1. Technology should serve human dignity
  2. Should not deepen inequality
  3. Requires moral and civic responsibility
  4. Institutions must guide development for the common good

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<sup>18</sup> Leo XIII (1891) Papal Encyclical RERUM NOVARUM: Rights and Duties of Capital and Labour.

How do we do ethical and morally responsible design?

A Leading Framework is *Value Sensitive Design*:<sup>19 20</sup>

- » Treats ethics as integral to design from the outset
- » Conceptual, empirical, and technical investigations
- » Strength: identifies key values, tensions, tradeoffs

A key limitation is risks assuming a too-straightforward link between design intention and user practice<sup>16</sup>

<sup>19</sup> Friedman, B. (1996). Value-sensitive design. *interactions*, 3(6), 16-23.

<sup>20</sup> Envisioning cards

<sup>16</sup> Albrechtslund, A. (2007). Ethics and technology design. *Ethics and information technology*, 9(1), 63-72.



Image

Title

### Envisioning Criterion

Each Envisioning Card is associated with one of five envisioning criteria: *Stakeholders, Time, Values, Pervasiveness, and Multi-lifespan.*

Stakeholders · Time · Values · Pervasiveness · Multi-lifespan

Changing Hands

A single product can change hands once, twice, or more times during its lifecycle. It may be passed among family members (e.g., coming of age gift) or across town (e.g., consignment). How might use of the system change as the technology changes hands?

Design a scenario of your product changing hands. Imagine a specific challenge an individual, a family, or a community might face when wanting to shift ownership. What features might make this process smoother?

Design

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Title

### Theme

Describes the theme of this Envisioning Card.

### Design Activity

Suggested activity for exploring the theme of this Envisioning Card.

*What values we could design for?*

Enduring human values:

- » Human dignity<sup>18</sup>
- » Fairness & equity
- » Transparency<sup>20</sup>
- » Privacy<sup>16</sup>
- » Trustworthiness
- » Agency & autonomy
- » Authenticity
- » Community & relationship-building<sup>21</sup>
- » Accessibility & inclusion

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<sup>18</sup> Leo XIII (1891) Papal Encyclical RERUM NOVARUM: Rights and Duties of Capital and Labour.

<sup>20</sup> Envisioning cards

<sup>16</sup> Albrechtslund, A. (2007). Ethics and technology design. *Ethics and information technology*, 9(1), 63–72.

<sup>21</sup> Bell, G. Small-group conversation on emerging technologies. Meeting held the University of Wisconsin–Madison campus, 2010.

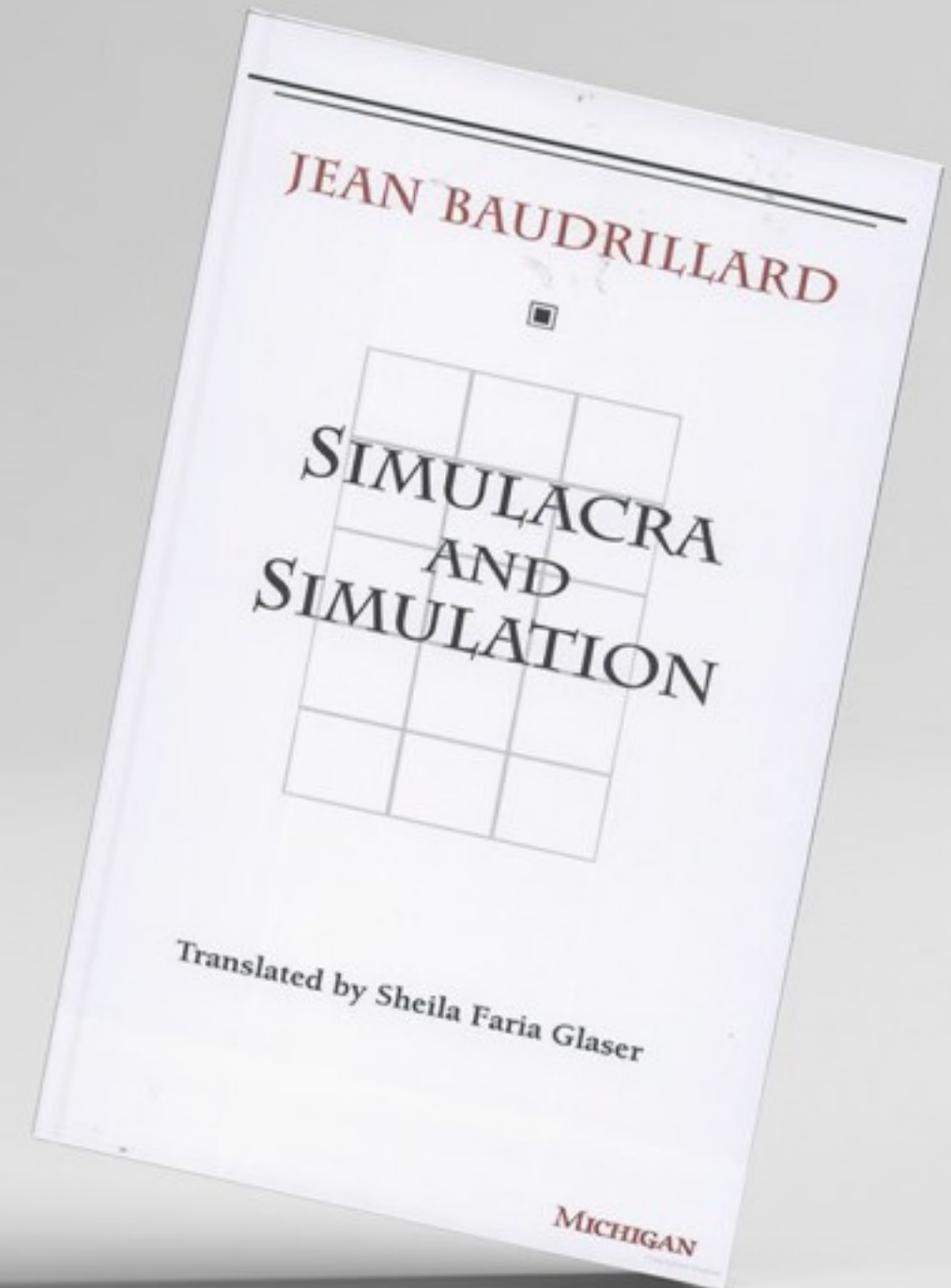
*But what is the risk to these values?*

- » Some technologies replace or distort reality<sup>22 23</sup>
  1. reflection of reality (e.g., a photo of a person)
  2. distortion of reality (e.g., a person's photo with AI filters)
  3. absence of reality (e.g., a deepfake, a fictional influencer)
  4. hyperreality, or pure “simulacrum” (e.g., a fully synthetic virtual influencer with a backstory, emotions, and lifestyle )
- » Others reinforce and amplify authentic human experiences
- » Ethical design asks: *Does this system enrich reality and human connection, or does it pull us away from them?*

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<sup>22</sup> Baudrillard, J. (1983). The precession of simulacra. New York, 1–80.

<sup>23</sup> Baudrillard, J. (1981). *Simulacra and simulation*.



*How do we translate these values into design principles?*

1. Preserve meaningful human roles — Avoid replacing essential human interactions with simulations<sup>15</sup>
2. Respect human reality — Avoid designs that blur authenticity and simulation<sup>17 22</sup>
3. Foster human agency — Support understanding, control, and meaningful choice<sup>17</sup>
4. Nurture human connection — Design for relationships and shared life, not isolation<sup>21</sup>

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<sup>15</sup>Winner, L. (2017). Do artifacts have politics? In *Computer ethics* (pp. 177-192).

<sup>17</sup>Verbeek, P. P. (2008). Morality in design: Design ethics and the morality of technological artifacts. In *Philosophy and design: From engineering to architecture* (pp. 91-103).

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<sup>21</sup>Bell, G. Small-group conversation on emerging technologies. Meeting held the University of Wisconsin–Madison campus, 2010.

# Discussion Format

- » We'll let AI randomly pick 3–5 names
- » In the selected order, students:
  - » Present their provocation/critical artifact/policy or design recommendation (30 secs)
  - » Lead class discussion (5–8 min)