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Beware, Data Processing! Proposing Categories for Risk Communication Related to the Processing of Personal Data

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2023 USENIX Conference on
Privacy Engineering Practice and Respect

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What follows are the **results of a collaborative effort.** I could not present this without you. **Thank you!**

Rita Gsenger

Filmona Mulugeta

Marte Henningsen

Marie Schirmbeck

Lena Mischau

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Informed consent

assumption of notice and choice framework:
data subjects can make **rational and informed decisions by estimating potential privacy costs** based on the information provided in privacy notices

\requires, that

1. **privacy notices** are **designed so that data subjects engage with** the contained **information**
2. **data subjects have** some **understanding of risk formation** in data processing

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Informed consent is challenged by…

design of privacy notices

- long[1]
- plain text presentation[2]
- language vague and misleading[3]
- comprehension issues[4]

structural factors

- intransparent mechanisms for control[5]
- nudging and dark patterns[6]
- lack of alternatives[7]

individual factors

- bounded rationality, e.g. hyperbolic discounting[8]
- lack of mental models for risk assessement[9]

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Informed consent

\ **assumption** of *notice and choice* framework: data subjects can make **rational and informed decisions by estimating potential privacy costs** based on the information provided in privacy notices

\ requirements not met, because

design issue

privacy notices are not read by data subjects[10]

knowledge issue

most **data subjects lack adequate mental models of risk formation** in data processing

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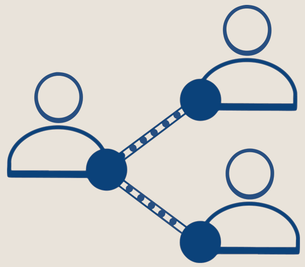
Recent approaches

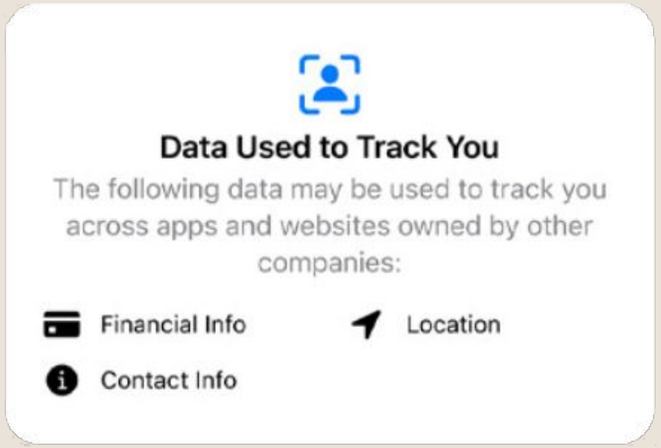


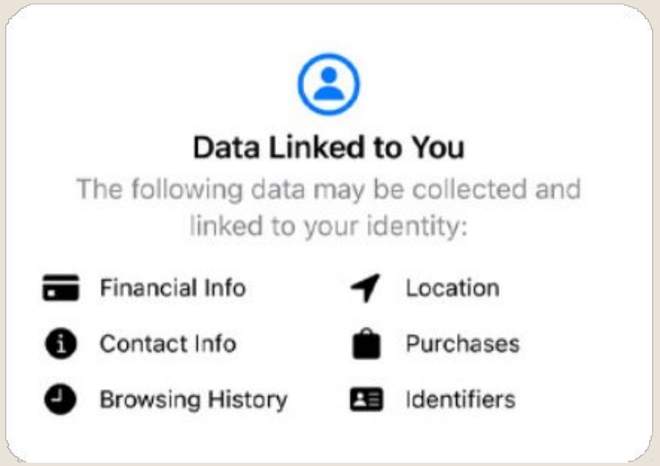
Sharing with third parties

Profiling

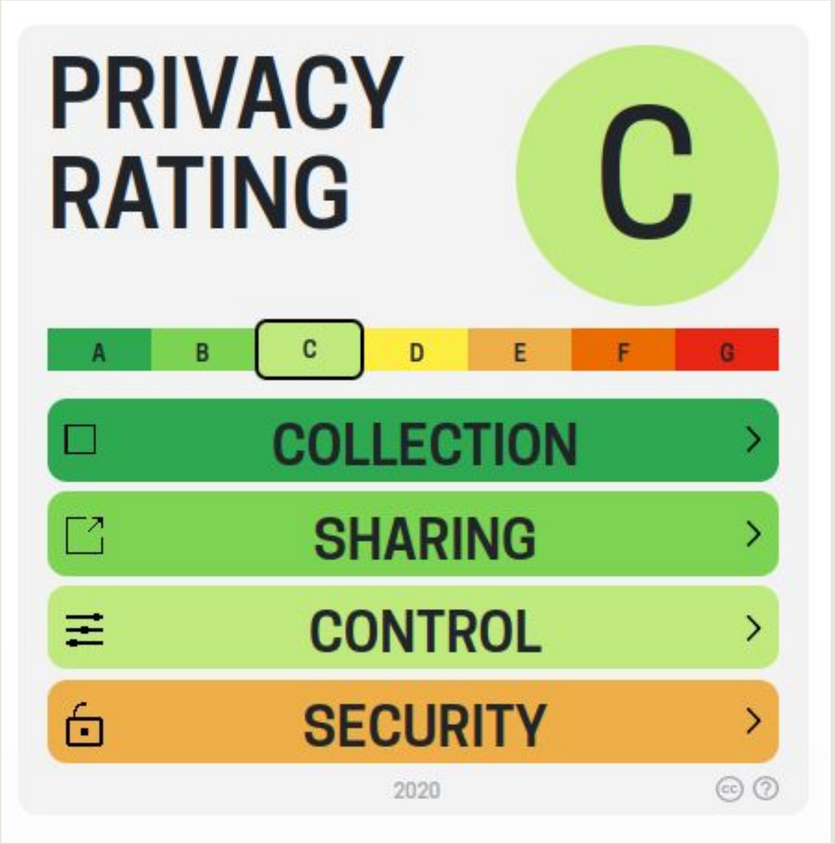
Marketing purposes

Data Protection Icon Set (DaPIS, 2019)[11]





Apple's Privacy Nutrition Labels (2020)[12]



Privacy Rating (2021)[13]

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Requirements for successful risk communication

\ **warning messages should include**[14]

- information about the **hazard**
- instructions on **how to avoid** the hazard
- **potential consequences** if the hazard is not avoided

\ we can address these aspects by **figuring out how negative consequences manifest**

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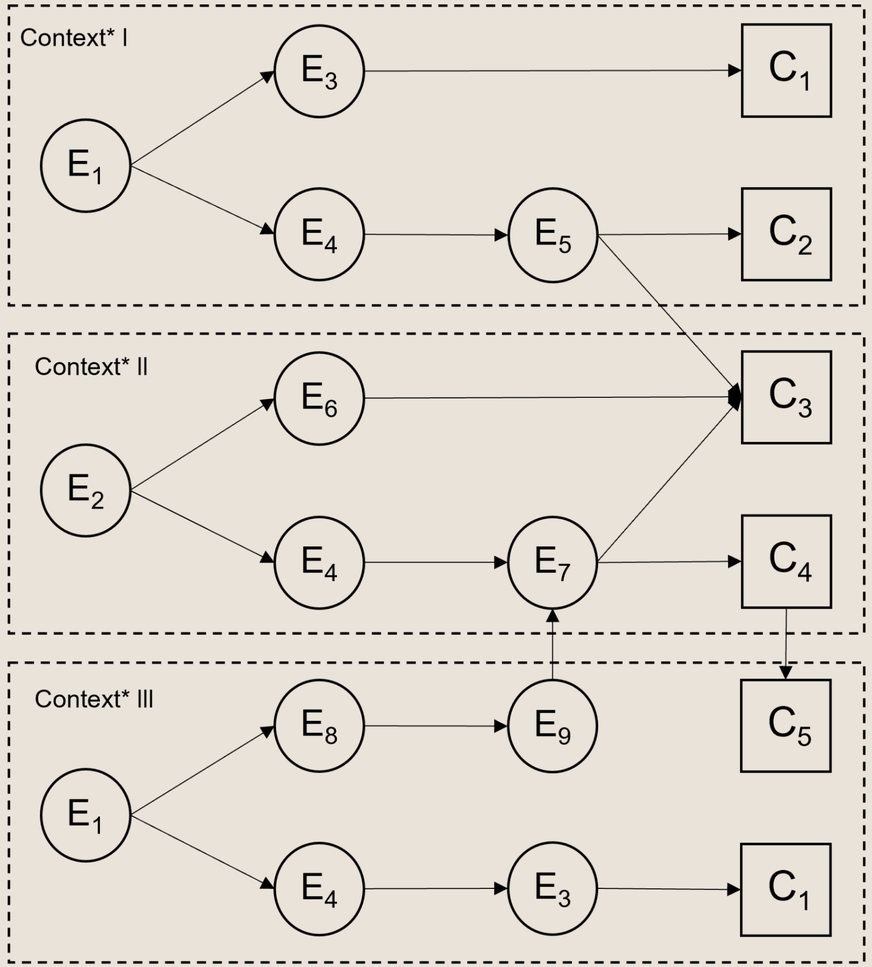
the Contextual Model of Perceived Privacy Risk



* Context is defined by the entities involved (sender, receiver, subject), types of data and purpose

\ (perceived) **risks are negative consequences** (C) **resulting from specific events** (E)

\ events and consequences happen **within contexts** but can also transgress them

\ combination of

- Perceived Risk Model[15]
- Contextual Integrity[16]

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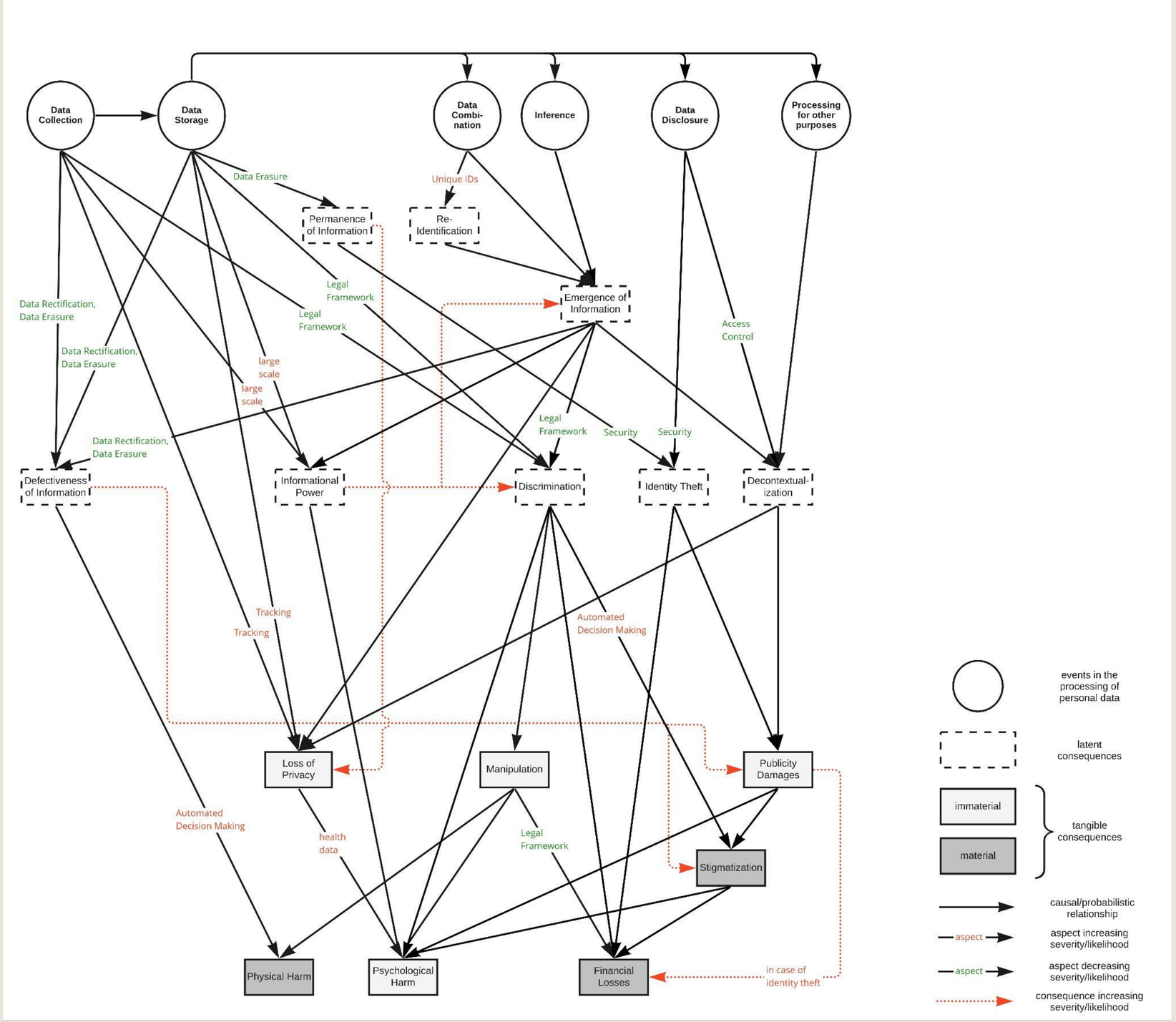
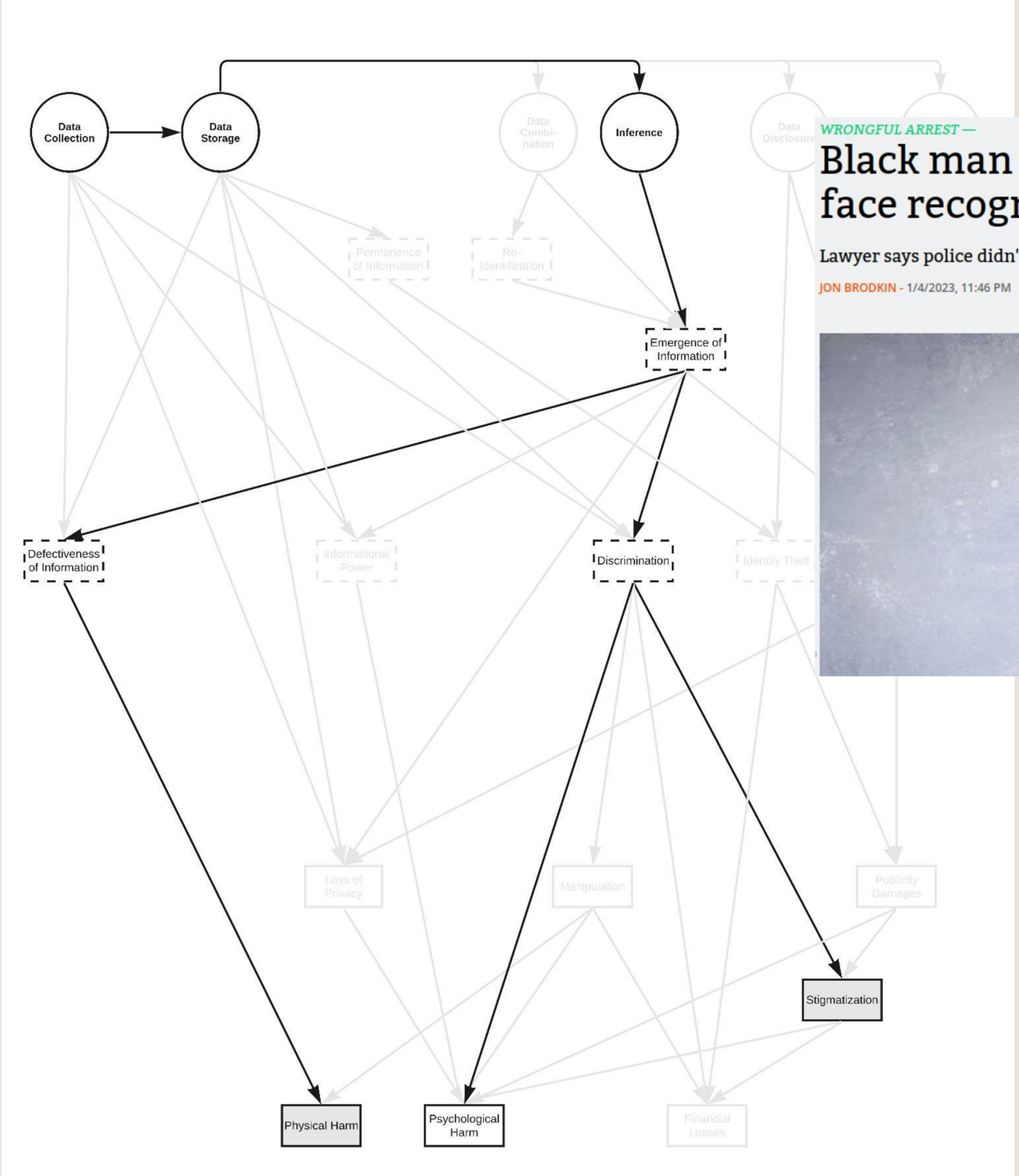


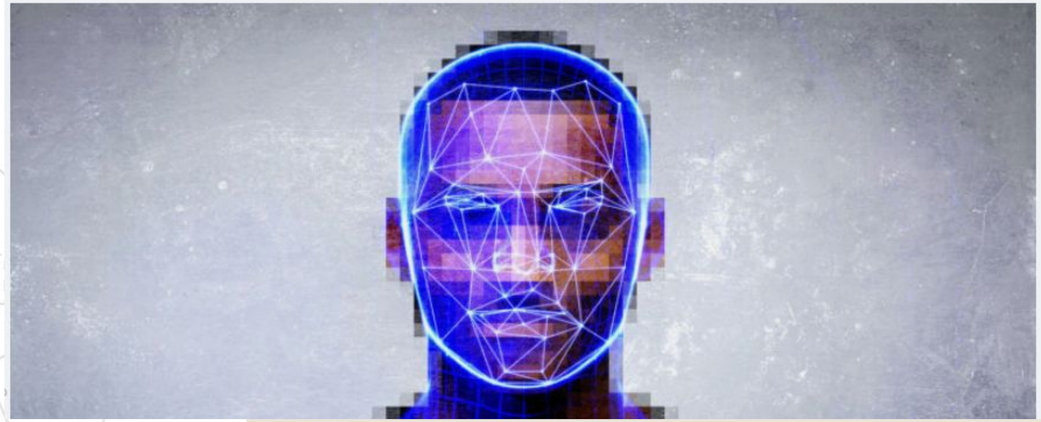


WRONGFUL ARREST —

Black man wrongfully jailed for a week after face recognition error, report says

Lawyer says police didn't check man's height, weight—or the mole on his face.

JON BRODKIN - 1/4/2023, 11:46 PM



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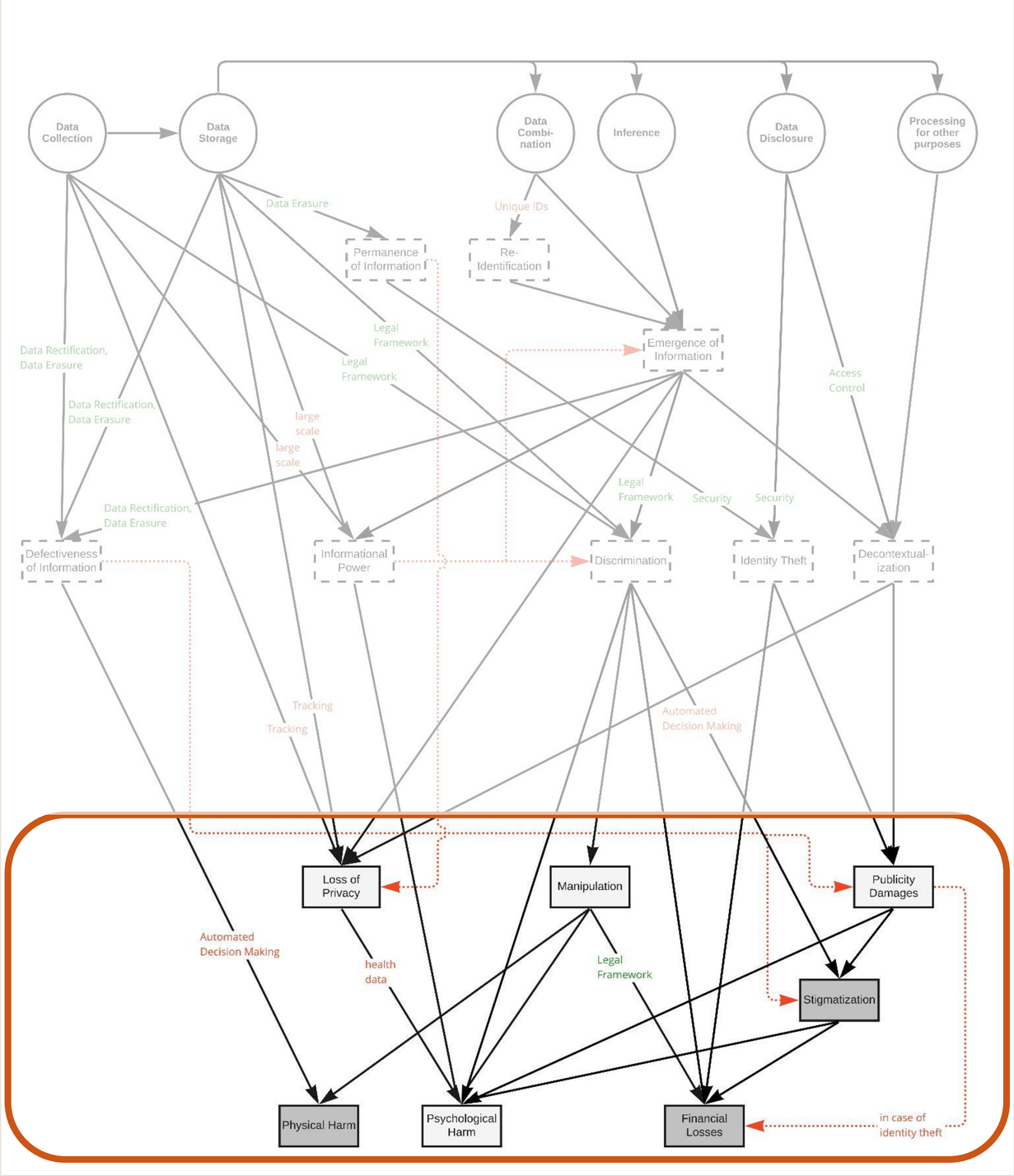

Financial Losses

Physical Harm

Psychological Harm

Stigmatization

Publicity Damages

Manipulation

Loss of Privacy

Tangible Consequences

material / immaterial

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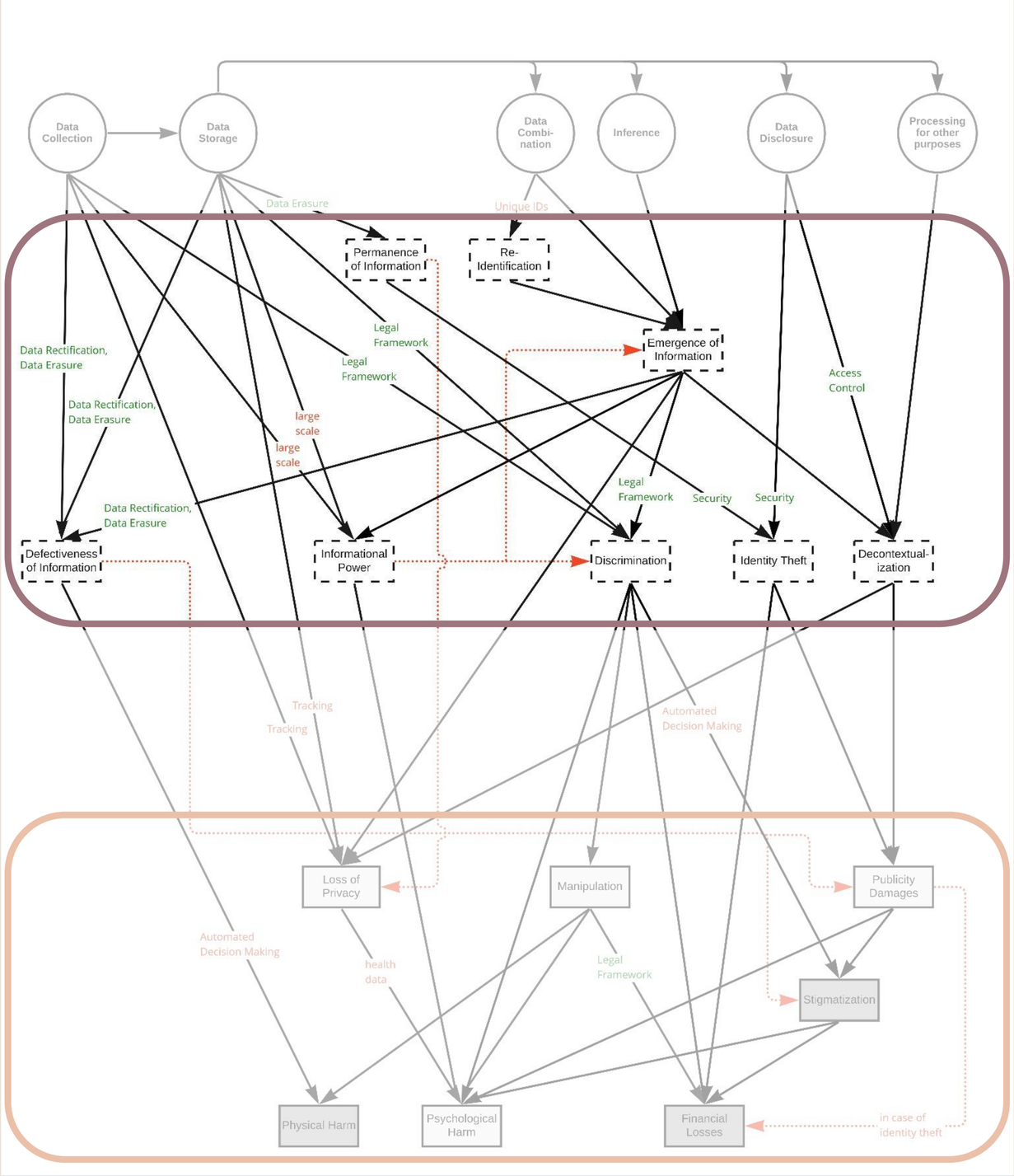
- Informational Power
- Decontextualization
- Emergence of Information
- Discrimination
- Identity Theft
- Defectiveness of Information
- Permanence of Information



Latent Consequences

Tangible Consequences

material / immaterial

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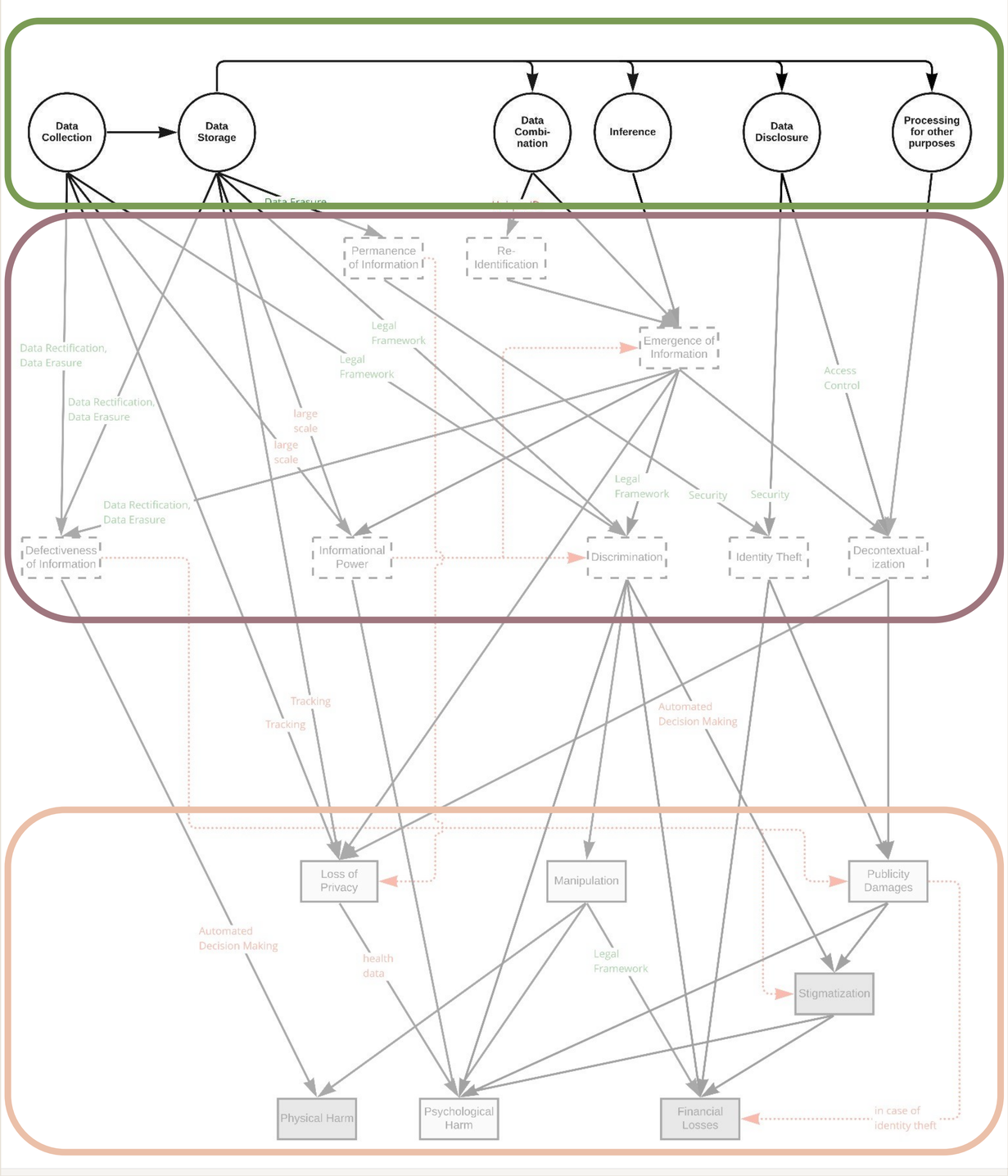
- Data Collection
- Data Storage
- Data Combination
- Inference
- Data Disclosure
- Processing for other purposes



Causes / Data Processing Operations

Latent Consequences

Tangible Consequences

material / immaterial

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Proposed Categories for Risk Communication

information about the hazard

Processing Operations	Profiling Automated Decision Making Scoring Behavioral Monitoring Systematic Monitoring 3rd Party Data Collection Data Combination Data Disclosure Large Scale Processing Storage Period Off-Device Storage
Data Types	Sensitive Data Genetic Data Health Data Biometric Data Location Data Unique Identifiers Financial Data
Processing Purposes	Data Sale Excessive or Broad Purposes

ways to mitigate consequences

Data Subject Rights	Right to Erasure Right to Rectification Right to Object Choices

potential consequences

Latent Consequences	Informational Power Decontextualization Emergence of Information Discrimination Manipulation Identity Theft Defectiveness of Information Permanence of Information
Tangible Consequences	Financial Losses Stigmatization Physical Harm Publicity Damages Manipulation Psychological Harm

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Key Takeaways

1. Risk communication can improve privacy notices by providing evaluations and justifications for them
2. Data processing operations are key causes of risk
3. Before tangible consequences are felt, latent consequences have already occured

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