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

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Informed consent

\textbf{Assumption} of notice and choice framework: data subjects can make \textit{rational and informed decisions} by estimating potential \textit{privacy costs} based on the information provided in privacy notices.

\textbf{Requires}, that

\begin{enumerate}
  \item privacy notices are designed so that data subjects engage with the contained information
  \item data subjects have some understanding of risk \textit{formation} in data processing
\end{enumerate}
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 assessment\(^9\)

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\textbf{Assumption} of notice and choice framework: data subjects can make \textit{rational and informed decisions} by estimating \textit{potential privacy costs} based on the information provided in privacy notices.

\textbf{Requirements} not met, because

- \textit{Design Issue}: Privacy notices are not \textit{read} by data subjects\textsuperscript{10}
- \textit{Knowledge Issue}: Most data subjects lack \textit{adequate mental models of risk formation} in data processing.
Recent approaches

Data Protection Icon Set (DaPIS, 2019)\textsuperscript{11}

Apple’s Privacy Nutrition Labels (2020)\textsuperscript{12}

Privacy Rating (2021)\textsuperscript{13}
Requirements for successful risk communication

\textit{Warning messages should include}^{14}
\begin{itemize}
  \item information about the \textit{hazard}
  \item instructions on \textit{how to avoid} the hazard
  \item potential consequences if the hazard is not avoided
\end{itemize}

\textit{We can address these aspects by} \textit{figuring out how negative consequences manifest}
(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\textsuperscript{15}
- Contextual Integrity\textsuperscript{16}
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 BECHERER - May 22, 2023, 11:46 PM
Tangible Consequences
material / immaterial

Financial Losses
Physical Harm
Psychological Harm
Stigmatization
Publicity Damages
Manipulation
Loss of Privacy
Latent Consequences

Tangible Consequences
material / immaterial

Informational Power
Decontextualization
Emergence of Information
Discrimination
Identity Theft
Defectiveness of Information
Permanence of Information
Causes / Data Processing Operations

Latent Consequences

Tangible Consequences
material / immaterial
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

**Ways to mitigate consequences**

<table>
<thead>
<tr>
<th>Data Subject Rights</th>
<th>Right to Erasure</th>
<th>Right to Rectification</th>
<th>Right to Object Choices</th>
</tr>
</thead>
</table>

**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

- **Processing Purposes**
  - Data Sale
  - Excessive or Broad Purposes

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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 occurred.
References

References


13 S. Barth, D. Ionita, M. D. De Jong, P. H. Hartel, M. Junger. Privacy rating: A user-centered approach for visualizing data handling practices of online services. IEEE transactions on professional communication, 64(4). 2021.


