Data Protection and Consenting Communication Mechanisms: Current Open Proposals and Challenges — Presentation

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Background

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Background

The Challenges of Personal Data Protection and Consenting

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Data Protection and Consenting Communication Mechanisms (DPCCMs)

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Privacy Signals ?

Binary “Signals”

Do Not Track (DNT)
Global Privacy Control (GPC)

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Background

Data Protection and Consenting Communication Mechanisms (DPCCMs)

Privacy Signals ?

Binary "Signals"

Do Not Track (DNT)

Global Privacy Control (GPC)

More Advanced/Expressive Mechanisms

the Platform for Privacy Preferences Project (P3P)

Advanced Data Protection Control (ADPC)

industry controlled efforts such as *the IAB Europe Transparency and Consent Framework7 (TCF v2)*

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Current Open Proposals

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RQ1:

What are the technical factors that can be used to characterize and compare DPCCMs?

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RQ3:

What are the challenges to realize a Human-centric, Accountable, Lawful, and Ethical DPCCM?

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What are the technical factors that can be used to characterize and compare DPCCMs?

RQ2:

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RQ3:

What are the challenges to realize a Human-centric, Accountable, Lawful, and Ethical DPCCM?

RQ4:

To what extent are the identified challenges addressed in the current GPC and ADPC proposals?

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Methodology

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Technical Factors

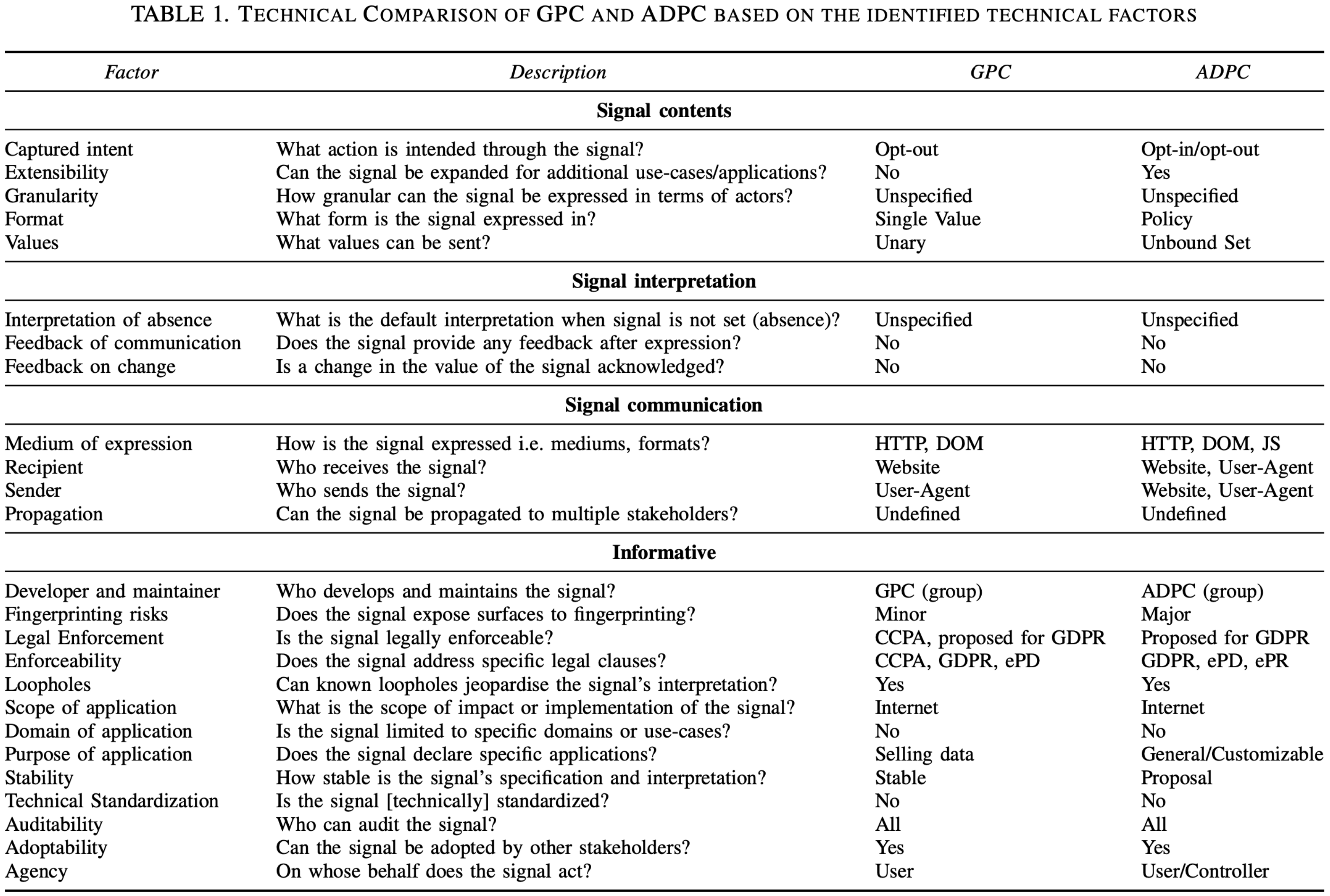

TABLE 1. Technical Comparison of GPC and ADPC based on the identified technical factors

Factor	*Description*	*GPC*	*ADPC*
Signal contents			
Captured intent	What action is intended through the signal?	Opt-out	Opt-in/opt-out
Extensibility	Can the signal be expanded for additional use-cases/applications?	No	Yes
Granularity	How granular can the signal be expressed in terms of actors?	Unspecified	Unspecified
Format	What form is the signal expressed in?	Single Value	Policy
Values	What values can be sent?	Unary	Unbound Set
Signal interpretation			
Interpretation of absence	What is the default interpretation when signal is not set (absence)?	Unspecified	Unspecified
Feedback of communication	Does the signal provide any feedback after expression?	No	No
Feedback on change	Is a change in the value of the signal acknowledged?	No	No
Signal communication			
Medium of expression	How is the signal expressed i.e. mediums, formats?	HTTP, DOM	HTTP, DOM, JS
Recipient	Who receives the signal?	Website	Website, User-Agent
Sender	Who sends the signal?	User-Agent	Website, User-Agent
Propagation	Can the signal be propagated to multiple stakeholders?	Undefined	Undefined
Informative			
Developer and maintainer	Who develops and maintains the signal?	GPC (group)	ADPC (group)
Fingerprinting risks	Does the signal expose surfaces to fingerprinting?	Minor	Major
Legal Enforcement	Is the signal legally enforceable?	CCPA, proposed for GDPR	Proposed for GDPR
Enforceability	Does the signal address specific legal clauses?	CCPA, GDPR, ePD	GDPR, ePD, ePR
Loopholes	Can known loopholes jeopardise the signal's interpretation?	Yes	Yes
Scope of application	What is the scope of impact or implementation of the signal?	Internet	Internet
Domain of application	Is the signal limited to specific domains or use-cases?	No	No
Purpose of application	Does the signal declare specific applications?	Selling data	General/Customizable
Stability	How stable is the signal's specification and interpretation?	Stable	Proposal
Technical Standardization	Is the signal [technically] standardized?	No	No
Auditability	Who can audit the signal?	All	All
Adoptability	Can the signal be adopted by other stakeholders?	Yes	Yes
Agency	On whose behalf does the signal act?	User	User/Controller

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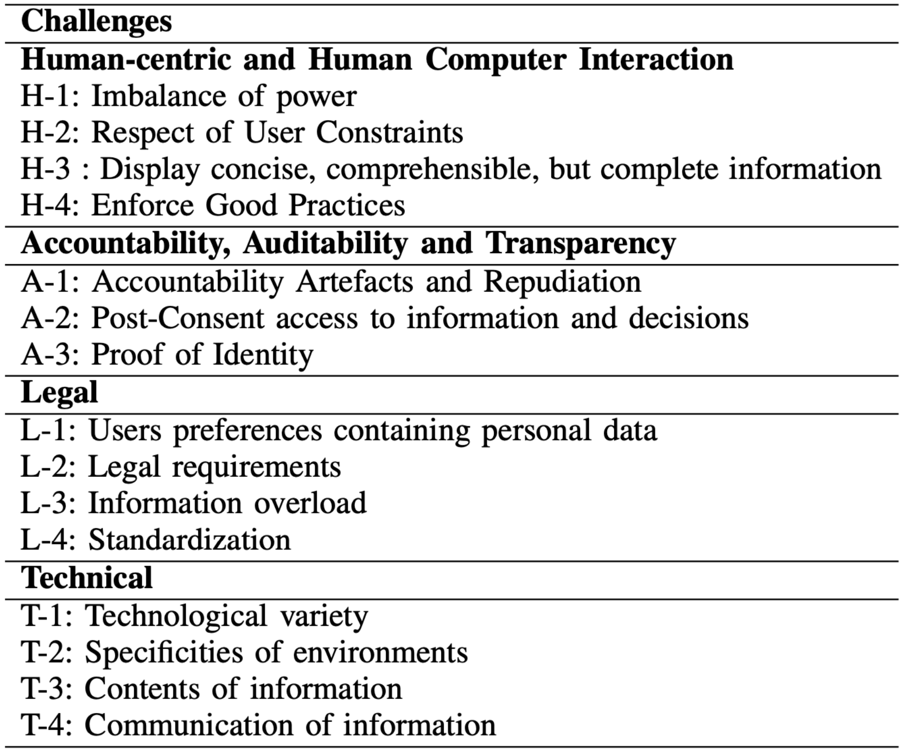
Challenges

TABLE 2. MAIN CHALLENGES OF DPCCMS



Challenges
Human-centric and Human Computer Interaction
H-1: Imbalance of power
H-2: Respect of User Constraints
H-3 : Display concise, comprehensible, but complete information
H-4: Enforce Good Practices
Accountability, Auditability and Transparency
A-1: Accountability Artefacts and Repudiation
A-2: Post-Consent access to information and decisions
A-3: Proof of Identity
Legal
L-1: Users preferences containing personal data
L-2: Legal requirements
L-3: Information overload
L-4: Standardization
Technical
T-1: Technological variety
T-2: Specificities of environments
T-3: Contents of information
T-4: Communication of information

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Human-centric and HCI Challenges

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Human-centric and HCI Challenges

GLOBAL PRIVACY CONTROL

Advanced
Data Protection
Control

Imbalance of power

Respect User Constraints

Display concise, comprehensible, but complete information

Enforce Good Practices

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Accountability, Auditability and Transparency Challenges

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Advanced Data Protection Control ADPC

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Legal Challenges

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Users preferences containing personal data

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Technical Challenges

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Technological variety

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Conclusion

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Many other interconnected challenges

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Opt-in vs. Opt-out

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Opt-in vs. Opt-out

Minimal (Binary) vs. Advanced (Expressive)

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Top-down vs. Bottom-up Realisation/Enforcement

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