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The experience of rights in the infosphere

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The experience of rights in the infosphere

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Abstract

The infosphere expanded through the pervasiveness of hyperconnected digital artifacts created in the last decades of the twentieth century. As personal computing is generalized to the layperson, the design concerns are related first to core usability, focusing on functionality, then to the full personal experience, including emotional, aesthetic, and hedonistic elements. As the social order became digital, law and regulatory frameworks entered the stage.

The current normative frameworks aim to uphold the principles of an organized society and the rule of law within the vast realm of the infosphere. However, life in the infosphere is lived through experience, which means that common actions are not critically evaluated before they are performed. Awareness of normative frameworks in daily life is often shaped by learned and socially recognized conventions and representations rather than through extensive and detailed legal analysis.

The current expressions of individual and fundamental rights in the digital space do not support experiential behavior and are not truly compatible with a respectful and humane digital life. This is evident in the illusion of consent mechanisms and the unavoidable litigation. This contribution is a call for debate and does not offer definitive solutions.

Zusammenfassung

Die Infosphäre hat sich in den letzten Jahrzehnten des 20. Jahrhunderts um hypervernetzte digitale Artefakte erweitert. Mit der zunehmenden Verbreitung von Computern für Laien ging es bei der Gestaltung zunächst um die Benutzerfreundlichkeit, die sich auf die Funktionalität konzentrierte, und dann um das gesamte persönliche Erlebnis einschließlich emotionaler, ästhetischer und hedonistischer Elemente. In dem Maße, in dem auch die soziale Ordnung digital wurde, traten Gesetze und rechtliche Rahmenbedingungen auf den Plan.

Die derzeitigen normativen Rahmenbedingungen zielen darauf ab, die Grundsätze einer organisierten Gesellschaft und der Rechtsstaatlichkeit in dem erweiterten Raum der Infosphäre aufrechtzuerhalten. Das Leben in der Infosphäre wird jedoch erfahrungsorientiert gelebt, was bedeutet, dass gemeinsame Handlungen vor ihrer Ausführung nicht kritisch bewertet werden. Das Bewusstsein für normative Rahmenbedingungen im täglichen Leben entwickelt sich häufig durch erlernte und gesellschaftlich anerkannte Konventionen und Repräsentationen und weniger durch eine wiederkehrende und detaillierte Analyse des Rechts.

Die aktuellen Ausprägungen der Individual- und Grundrechte im digitalen Raum lassen kein erfahrungsorientiertes Verhalten zu und sind mit einem respektvollen und menschlichen digitalen Leben eigentlich nicht vereinbar. Dies zeigt sich in der Illusion der Zustimmungsmechanismen und in den unvermeidlichen Rechtsstreitigkeiten. Dieser Beitrag ist ein Aufruf zur Diskussion und bietet keine endgültigen Lösungen.

I. Introduction

The infosphere, a concept constructed by Floridi[1,2], developed through the pervasiveness of hyperconnected digital artifacts created in the final decades of the twentieth century. We adopt this concept of the infosphere for its holistic and immersive nature- a space where digital life occurs- its conceptual durability over the last two decades, and last but not least, its relation to computer and information ethics: a pathway to a normative, legal, and individual rights perspective that we wish to convey in this text.

A defining moment of the expansion of the infosphere was certainly the emergence of personal computing and its generalization to the layperson, followed by the immense levels of interconnection. In the early stage of this process, the design concerns related to core usability, focusing on functionality[3, 4], along with the general tradition of human-machine interaction[5]. In the following moment, the design space extended then a more holistic personal experience of the user, including emotional[6], aesthetical[7] and hedonistic elements. Along the way, user experience (UX) design matured, and the core concepts and mechanisms that should be present in a functional and pleasurable digital artifact are now much better understood and harnessed.

As the social order became digital, law and regulatory frameworks emerged. The current normative structures aim to uphold the principles of an organized society and the rule of law within the extended digital realm of the infosphere. Human and fundamental rights, as historicallyand systematically defined in Declarations, Charters, and Constitutions, serve as the foundation for a set of legal principles and practices intended to protect rights such as privacy, freedom of expression, the right to conduct business, and intellectual property rights. The laws and regulations governing the digital space create a legal and jurisdictional framework to defend and enforce these rights.

The new digital laws have introduced a new dimension in both the design and use of the artifacts that populate the infosphere – platforms, services, or applications (apps) of various kinds. Building and providing a service or using an app must occur

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[1] Luciano Floridi (1999) Philosophy and Computing – an Introduction, Routledge

2 Luciano Floridi (1999) Information ethics: On the philosophical foundation of computer ethics, based on ETHICOMP98, The Fourth International Conference on Ethical Issues of Information Technology, Erasmus University, The Netherlands, 1998

3 Jakob Nielsen (1993) Usability engineering, Morgan Kaufmann

4 Norman, D. (1988) The Psychology of Everyday Things, Basic Books, (The Design of Everyday Things)

5 Johannsen, Gunnar (1993) Mensch Machine Systeme, Springer Verlag

6 Norman, D. (2005) Emotional Design: why we love (or hate) everyday things, Basic Books

7 Choi, J., & Kim, S. (2016). “Is the smartwatch an IT product or a fashion product? A study on factors affecting the intention to use smartwatches”. *Computers in Human* Behavior, 63, pp 777-786.

within legal boundaries, which necessitates a continual awareness of the legal landscape. However, life in the infosphere, like in our physical space, is lived experientially, meaning that common and spontaneous actions are usually not critically assessed prior to execution. The awareness of normative frameworks in daily life is often developed through learned and socially recognized conventions and representations rather than through explicit references to laws or regulations, as we find today in many digital artifacts. In this paper, we advocate for the need for new types of interactions with the digital artifacts that comprise the infosphere, whose design supports the legal dimension at least as well as we are accustomed to in the established physical world.

The next section, *Experience and Reflection,* summarizes a conceptual framework that characterizes human interaction and experience through converging perspectives. We then reflect on how our interaction with the law, either directly or indirectly, occurs in our everyday lives in the section titled *Interactions with Law.* The emergence and development of digital laws, along with the resulting principles and rights that will generate design requirements, are presented -non-exhaustively - in Section IV, *Law and Rights for the Digital Space*. Section V, *The Impact of Digital Laws on Infosphere Designs*, presents a core manifestation of legal principles: the mechanism of consent - how it is implemented in infosphere artifacts, its limitations and erroneous uses, concluding with an argument for new design approaches. These new design approaches must be grounded in empirical evidence, which is provided in Section VI, *Available Empirical Evidence*, based on a reality check from a sample of cases, case law from the European Court of Justice, and administrative decisions from various Data Protection Boards across Europe. To enrich the future design space, we mention in Section VII, Inspirational Designs, some interaction or UX solutions that have been experimented with in other domains for different purposes. We conclude with an ending and, most importantly, open questions.

II. Experience and reflection

Phenomenology "*may be defined initially as the study of structures of experience, or consciousness*" [8] and consolidated as a philosophical tradition through the works of Husserl and others, like Heidegger, notably in his opus[9]. Heidegger's account of experience has been integrated in digital design theory by Winograd and Flores, in

[8] Smith, David Woodruff, "Phenomenology", *The Stanford Encyclopedia of Philosophy* (Summer 2018 Edition), Edward N. Zalta (ed.), URL = <https://plato.stanford.edu/archives/sum2018/entries/phenomenology/>.

9 Heidegger, M., 1962, *Being and Time*, Trans. by John Macquarrie and Edward Robinson. New York: Harper & Row. From the German original of 1927.

their foundational work *Understanding Computers and Cognition (1986)* [10]. The Heideggerian concepts of *readiness-to-hand*, *breakdown* and *present-at-hand*[11], are elements for the interpretation of the human experience, and the Heideggerian hammer[12] is a foundational, concentrated image of artifacts designed for interaction, where the inherent dual states of the experience are illustrated.

In the scope delimited by the above perspective, the conceptual framework of human-computer interaction and interaction design – its constructive reflection - has also been influenced by cognitive science. A guiding framework has been put together by Don Norman in his seminal work, The Psychology (and then the Design) of Everyday Things[13], and conceptually developed in Norman (1993a) and Norman (1993b). According to Norman, the design addresses two modes of cognition, experiential and reflective[14,15] .

The same duality is determined by Strack & Deustch (2004)[16] and, more recently, Daniel Kahneman (2011)[17] in his best-seller work *Thinking Fast and Slow*, defines two modes, or systems, of thinking, "*System 1 operates automatically and quickly, with little or no effort and no sense of voluntary control; System 2 allocates attention to the effortful mental activities that demand it, including complex computations. The operations of System 2 are often associated with the subjective experience of agency, choice, and concentration*."

Contemporary studies refine and contextualize these dual modes or systems perspectives but keep the basic structure untouched. For example, Andreas Komninos[18] refines the experiential mode onto visceral and behavioral, Ana Caraban et al[19] use the dual system perspective to frame the interaction with design elements that are responsible (positively or negatively) for nudging. As discussed below,

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10 Winograd, T., and Flores,F. (1986) Understanding Computers and Cognition – A New Foundation for Design, Addison Wesley

11 Timothy Koschmann , Kari Kuutti & Larry Hickman (1998) The Concept of Breakdown in Heidegger, Leont'ev, and Dewey and Its Implications for Education, Mind, Culture, and Activity, 5:1, 25-41, DOI: 10.1207/s15327884mca0501_3

12 https://youtu.be/qbMsAkDtOx0?si=UO6NQNxiICaJJ1Yg

13 Supra note 5

14 Norman, D.A. (1993a) Cognition in the Head and in the World: An Introduction to the Special Issue on Situated Action, COGNITIVE SCIENCE 17, 1-6 (1993)

15 Norman, D. A. (1993b) Things That Make Us Smart: Defending Human Attributes in the Age of the Machine. Cambridge, MA: Perseus Books, pp 15-17.

16 Fritz Strack and Roland Deutsch (2004) Reflective and impulsive determinants of social behavior. Personality and social psychology review 8, 3 (2004), 220–247.

17 Daniel Kahneman and Patrick Egan (2011) Thinking, fast and slow. Vol. 1. Farrar, Straus and Giroux New York, pp 11-15

18 Andreas Komninos (2020) Norman's Three Levels of Design, https://www.interaction-design.org/literature/article/norman-s-three-levels-of-design

19 Ana Caraban, Evangelos Karapanos, Daniel Gonçalves, and Pedro Campos. 2019. 23 Ways to Nudge: A Review of Technology-Mediated Nudging in Human-Computer Interaction. In Proceedings of the 2019 CHI Conf on Human Factors in Computing Systems (CHI '19). ACM, NY, USA https://doi.org/10.1145/3290605.3300733

nudging is closely related to some of the (usually bad) implementations of interactive consent solutions.

The transition between the two *modes*, or *systems*, derives from breakdown events, either accidental or designed with a purpose (breaking the experiential mode like a device malfunction or an alarm) or from learning or habituation (playing music/driving experientially or not reflecting on warning signals).

This very simple conceptual framework allows us to return to the title of this paper to better understand its scope. The experience of rights in the infosphere occurs most often in reflective mode or within the scope of system 2, which contradicts the notion of experience itself. Experiences that are not experiential lead to incomplete interactions. We discuss this perspective below.

III. Interactions with law

Many human actions, individual or organizational, require a reflective and instrumental awareness and compliance with the legal texts, like signing contracts, perform administrative actions, demanding reparations or getting married or divorced. On the other hand, many legal norms and positions have perceptual expressions that guide and frame human conducts, without the need of the legal texts. There are many examples of these expressions that reflect the law, experientially:

(1) Traffic signs are expressions of law in the public space, traffic regulations[20] (since 1682[21]),

(2) Private property/Do not trespass signs or even door locks reflect real rights or *rights in rem*[22],

(3) Copyright © symbols in books or creative productions reflect protection from Copyright law[23,24],

(4) The European Certification (CE) logo in home appliances or electronic devices reflect compliance with consumer protection law[25], and energy consumption scales refer to environmental regulations[26],

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[20] Example, Österreich, https://www.bmk.gv.at/themen/verkehr/strasse/recht/stvo.html

21 Castro, I., Santos, J. Casimiro, T. (2023) Circulation in Seventeenth-Century Lisbon (Portugal): Traffic Signs and Traffic Rules, Historical Archaeology, Springer, https://doi.org/10.1007/s41636-023-00431-1

22 Bürgerliches Gesetzbuch (BGB), https://www.gesetze-im-internet.de/bgb/BJNR001950896.html

23 Directive (EU) 2019/790 copyright, https://eur-lex.europa.eu/eli/dir/2019/790/oj/eng

24 Jeanne C. Fromer and Christopher Jon Sprigman (2024) Copyright Law – Cases & Materials, open source books, http://copyrightbook.org

[25] Regulation (CE) 765/2008, https://eur-lex.europa.eu/legal-content/PT/LSU/?uri=oj:JOL_2008_218_R_0030_01

26 Directive (UE) 2018/844 https://eur-lex.europa.eu/eli/dir/2018/844/oj?locale=pt , and partially Directive (UE) 2019/944, https://eur-lex.europa.eu/eli/dir/2019/944/oj

(5) Even the simple wedding ring, a varying but widespread custom across societies, represents a legal position in the scope of personal and family laws[27].

These physical and often sensorial expressions of law, or symbolic representations, translate to conduct guidelines and possibilities of any deontic value, some to prohibitions, some to obligations, some other to permissions. Moreover, they also address constitutionally defined rights, vertically assured or protected by the states – freedom of movement, right to a safe environment and safe consumer choice, freedom of cultural creation, or horizontally applicable in the context of private relationships like private property or contracts[28].

While these expressions are not meant to replace the legal texts and legal disputes, they are the anchors for the daily life experiential interaction with law and rights. Legal norms are made explicit when new legal positions or persons are created, or when a breakdown occurs, like a breach of a contract, a criminal act or a natural birth or death. Seen from this perspective, the same duality – experiential versus reflective – occurs in our interaction with law and rights, as we would expect.

IV. Law and rights for the digital space

The first category of digital laws, or laws of the cyberspace, was most probably the laws on cybercrime and/or cybersecurity [29,30,31,], triggered by the early availability of data communications and remote access from computers to computers. Most of the cybersecurity laws are a specialization of criminal law, defining “new” sorts of computer-supported crimes or crimes against computers. These are not directly related to the direct user interactions in the digital space, even though unlawful access to information or intrusion in computers could be signaled in some way.

The last decade of the 20th century witnessed the rapid expansion of personal networked and mobile computing all integrated on the Internet/Web as we know it nowadays[32]. The proliferation of information services, entertainment, commercial, and

27 Supra note 22

28 Eleni Frantziou (2019). (Most of) the Charter of Fundamental Rights is Horizontally Applicable: ECJ 6 November 2018, Joined Cases C-569/16 and C-570/16, Bauer et al. European Constitutional Law Review, 15(2), 306-323. https://doi.org/10.1017/S1574019619000166 ; See also in this context, Cristina Izquierdo-Sans, Carmen Martínez-Capdevila, Magdalena Nogueira-Guastavino (2021) Fundamental Rights Challenges - Horizontal Effectiveness, Rule of Law and Margin of National Appreciation, Springer Cham, https://doi.org/10.1007/978-3-030-72798-7

29 https://en.wikipedia.org/wiki/Computer_Fraud_and_Abuse_Act

30 Bygrave, Lee A. (2024) The Emergence of EU Cybersecurity Law: A Tale of Lemons, Angst, Turf, Surf and Grey Boxes (2024). Opinion piece submitted to Computer Law & Security Review, University of Oslo Faculty of Law Research Paper No. 2024-04, Available at SSRN: https://ssrn.com/abstract=4714393

31 Elaine Fahey (2024) The evolution of EU–US cybersecurity law and policy: on drivers of convergence, Journal of European Integration, 46:7, 1073-1088, DOI: 10.1080/07036337.2024.2411240

32 https://www.internetsociety.org/internet/history-internet/brief-history-internet/WWW (1990), Mosaic Web browser (1994), mobile phones (1990+), Blackberry (1999), Iphone (2006)

all kinds of social networks gave substance to the digital infosphere and transformed the economy[33] and our social life as a whole. When the social order gets transformed and extended to such a degree, the legal order follows and extends to all domains[34].

Personal data, as the fuel of the digital economy, became a critical and exposed resource, and, in the context of privacy concerns, a set of data protection laws were enacted and put into force in different geographies[35]. The star of these legislations may well be the European General Data Protection Regulation (GDPR), approved by the European Parliament and the Council in 2016 (applicable since 2018).

Complementary to the Data Protection laws, other rights protection legislation has been enacted in multiple jurisdictions. Aspects related to freedom of expression and media freedom have emerged in the Communications Decency Act 1996 (USA) and, with the growing impact of social media, consolidated in the Digital Services Act of the EU (2022, applicable since 2024)[36]. Competition law also has direct implications in the configuration of the digital space, and the European reference law for these matters is the Digital Markets Act (2022, applicable since 2024)[37]. Finally, or more recent, the European Union Artificial Intelligence Act (EU AI Act) was approved in 2024 and is making its way into full force[38].

A. The principles and protection of rights in the digital laws

For the purpose of this presentation, we restrict the initial set of legislation to the EU regulations (GDPR, DSA, AIA). The GDPR[39] already provides us with a rich framework of principles and rights, from which some deadly sins have even been identified.

The GDPR principles[40] broad rules about conduct or outcomes - are (1) Lawfulness, fairness, and transparency; (2) Purpose limitation; (3) Data minimization; (4) Accuracy; (5) Storage limitation; (6) Integrity and confidentiality; and (7) Accountability.

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33 Zuboff, S. (2019) The age of surveillance capitalism, Profile Books 2019

34 Kettemann, M.C., Peukert, A. and Döhmann, I.S. (2022) The Law of Global Digitality, Routledge Research in the Law of Emerging Technologies, Routledge

35 https://gdprlocal.com/data-protection-laws-around-the-world-a-global-perspective

36 With related scope, see India Digital Bill 2023, https://www.nextias.com/blog/digital-india-act/

37 With related scope Competition Bill India 2024, https://prsindia.org/policy/report-summaries/digital-competition-law

38 The Product Liability Directive (https://eur-lex.europa.eu/eli/dir/2024/2853/oj/eng) also includes AI systems. The AI Liability directive has been withdrawn in February 2025 https://iapp.org/news/a/european-commission-withdraws-ai-liability-directive-from-consideration

39 Lukas Feiler, Nikolas Forgó And Michaela Weigl (2018) The EU General Data Protection Regulation (GDPR): A Commentary, German Law Publishers, Globe Law and Business

40 GDPR Article 5, and summary https://www.dataprotection.ie/sites/default/files/uploads/2019 11/Guidance%20on%20the%20Principles%20of%20Data%20Protection_Oct19.pdf

From these, individual rights, also the magical number seven[41], are derived [42]. They are, in a nutshell: (1) the right of access, (2) right to rectification, (3) right to erasure, (4) right to restrict processing, (5) the right to data portability, (6) the right to object and (7) the right not to be subject to a decision based solely on automated processing.

The DSA rights and principels are condensed in the Article 1(1) "*the aim of this Regulation is to contribute to the proper functioning of the internal market for intermediary services by setting out harmonized rules for a safe, predictable and trusted online environment that facilitates innovation and in which fundamental rights enshrined in the Charter, including the principle of consumer protection, are effectively protected*".

The DSA regulates the contemporary digital space by identifying different types of players – intermediary services, hosting services, online platforms and very large online platforms (VLOPS), and very large online search engines (VLOSE's) – to whom different types of liability and due diligence requirements are defined. These address (recital (3)) "*in particular the freedom of expression and of information, the freedom to conduct a business, the right to non-discrimination and the attainment of a high level of consumer protection*". In modern times, we may add other rights included in the Charter – right to liberty and security, right for private and family life, freedom of thought conscience and religion, as well as electoral passive and active rights – all of them being challenged by the growing disinformation activities.

The EU AI Act, the most recent legislation enacted by the European Parliament and the Council addresses Artificial Intelligence systems[43] aims to ensure *a high level of protection of health, safety, fundamental rights as enshrined in the Charter of Fundamental Rights of the European Union (the 'Charter'), including democracy, the rule of law and environmental protection, to protect against the harmful effects of AI systems in the Union* (recital (1)). It follows a risk-based approach, defines a hierarchy of risks and different sets of requirements for the systems classified in each level (from minimal, limited, high or unacceptable risk).

41 Miller, G. A. (1956). The magical number seven, plus or minus two: Some limits on our capacity for processing information. Psychological Review, 63(2), 81–97. https://doi.org/10.1037/h0043158

42 https://www.edps.europa.eu/data-protection/our-work/subjects/rights-individual_en

43 From Article 3 Definitions

(1) 'AI system' means a machine-based system that is designed to operate with varying levels of autonomy and that may exhibit adaptiveness after deployment, and that, for explicit or implicit objectives, infers, from the input it receives, how to generate outputs such as predictions, content, recommendations, or decisions that can influence physical or virtual environments;

(2) 'risk' means the combination of the probability of an occurrence of harm and the severity of that harm; […]

V. The impact of digital laws on the infosphere designs

Due to the publication, entry into force and influence of the digital laws, with the important role of the GDPR, and its predecessor ePrivacy Directive[44], apps and services all over the world[45] started to reflect the presence of the law. The designed interaction solutions, like the well-known, *accept cookies*[46] button and the accompanying Privacy Policies, or the "*agree to the Terms and Conditions,*" are the practical implementation of the ***consent* principle** with respect to rights and legal goods. Consent is thoroughly discussed by Elettra Bietti[47] in this context of digital platforms.

A. Consent everywhere, Ready-made Policies & Terms

Along with these "accept" or "agree" buttons or checkboxes, other less conspicuous functionalities have been introduced in the app and systems interfaces. These solutions actually led to the creation of new types of service providers, just to meet the generalized needs. The GDPR induced the development of several solutions and services for "consent management" and now, after five years of GDPR application, the concept of Consent Management Platforms (CMP) has consolidated into a new industry [48,49, 50] and the market for such services may actually consolidate into a small number of key players[51]. The CMPs manage the consenting process in the general websites and apps, meaning that the infamous "I agree" button, its user interface, and its semantic implications, namely with respect to the pervasive "cookies," are delegated to a third party. According to Habib et al[52], many CMPs rely on public and

44 **E-privacy Directive 2009/136/EC**, https://eur-lex.europa.eu/eli/dir/2009/136/oj/eng, now debated as a Regulation proposal https://digital-strategy.ec.europa.eu/en/policies/eprivacy-regulation

45 Anu Bradford (2020) The Brussels effect : how the European Union rules the world, Oxford University Press

46 Richie Koch (2024) Cookies, the GDPR, and the ePrivacy Directive; https://gdpr.eu/cookies/

47 Elettra Bietti (2020) Consent as a Free Pass: Platform Power and the Limits of the Informational Turn. 40 Pace L. Rev. 307 (2020), SSRN: https://ssrn.com/abstract=3489577

48 Maximilian Hils, Daniel W. Woods and Rainer Böhme (2020) Measuring the Emergence of Consent Management on the Web. In Proceedings of the ACM Internet Measurement Conference (IMC '20). Association for Computing Machinery, New York, NY, USA, 317–332. https://doi.org/10.1145/3419394.3423647

49 Daniel W. Woods, Rainer Böhme (2022) The commodification of consent, Computers & Security, Volume 115, 2022, https://doi.org/10.1016/j.cose.2022.102605

50 Dino Bollinger, Karel Kubicek, Carlos Cotrini and David Basin (2022), Automating Cookie Consent and GDPR Violation Detection, in 31st USENIX Security Symposium, 2022, Boston, https://www.usenix.org/conference/usenixsecurity22/presentation/bollinger

51 https://www.g2.com/categories/consent-management-platform-cmp

52 Hana Habib, Megan Li, Ellie Young, and Lorrie Cranor (2022) "Okay, whatever": An Evaluation of Cookie Consent Interfaces. In Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems (CHI'22). Association for Computing Machinery, New York, NY, USA, Article 621, 1–27. https://doi.org/10.1145/3491102.3501985

widely adopted standards like the IAB's transparency and consent framework[53]. The legal characterization of CMPs is discussed by Cristiana Santos et al.[54].

The GDPR has also triggered a host of (empirically observable[55]) *privacy policy generators*, apps and web-based services that produce *privacy policy* statements and documents that follow the GDPR requirements, or California Consumer Privacy Act (CCPA) [56], CalOPPA[57], PIPEDA[58], you name it. There is no objective data to question the correction of the automatically generated policy statements, but we must accept that the automation detaches the service/provider from a conscious definition and expression of the concerns for privacy and corresponding assurances and turns these into an automatically handled formality.

The *terms and conditions* statements, the key element in the DSA, follow the same *commodification* or externalization path in small—and mid-sized companies. We naturally exclude large or very large online platforms and search engines, which may take the effort and caution to carefully design their *terms and conditions* policies.

The technological response to current regulations is creating an increasingly abstract and opaque cover for the general users and providers that uniformizes the notions of data protection and consent and may (discussion *infra*) result in the degradation of the meaning of consent[59]. The spread of Generative AI tools shows how easy it is to produce correct and compliant policies & terms that nobody reads and actually nobody writes[60,61].

53 https://iabeurope.eu/transparency-consent-framework

54 Cristiana Santos and Midas Nouwens and Michael Toth and Nataliia Bielova and Vincent Roca (2021) Consent Management Platforms under the GDPR: processors and/or controllers?, Arxiv, https://arxiv.org/abs/2104.06861

55 https://digital.com/best-privacy-policy-generators

56 https://oag.ca.gov/privacy/ccpa

57 California Online Privacy Protection Act https://leginfo.legislature.ca.gov/faces/codes_displayText.xhtml?division=8.&chapter=22.&lawCode=BPC

58 Personal Information Protection and Electronic Documents Act https://www.priv.gc.ca/en/privacy-topics/privacy-laws-in-canada/the-personal-information-protection-and-electronic-documents-act-pipeda/

59 Another dimension of consent that we do not discuss here is its fragility. Nancy Kim provides an extensive study on Consentability, with a reference context based on the so-called hard cases (self-directed activities, bodily integrity exchanges and novel/experimental activities – like travelling to Mars in Elon Musk's spaceships). Nancy Kim (2019). Consentability – Consent and Its Limits, Cambridge University Press.

60 Ruoxi Sun and Minhui Xu (2020) Quality Assessment of Online Automated Privacy Policy Generators: An Empirical Study. In Proceedings of Evaluation and Assessment in Software Engineering, Trondheim, Norway, April 15–17, 2020 doi:10.1145/3383219. 3383247

61 Shidong Pan et al (2023) A Large-scale Empirical Study of Online Automated Privacy Policy Generators for Mobile Apps, arXiv:2305.03271v1 [cs.SE] 5 May 2023

B. The limitations of consent

Solove[62] presents an extensive and systematic review of the limitations of privacy rights (with a strong focus on the GDPR definitions and requirements). As a general perspective, Solove dissociates *data protection* rights from *privacy* rights and successively addresses: (i) the onus that privacy rights put on individuals by forcing self-management – through consent (ii) the cognitive and knowledge limitations of individuals to make decisions on privacy, (iii) the wrong assumption that privacy can be atomistically managed at the individual level. He then critically reviews a number of commonly recognized rights, mostly from GDPR framework: right to *Information or Notice*, right to *Access*, right to *Data Portability*, right to *Rectification or Correction*, right to *Erasure or Deletion*, right *to be Forgotten*, rights *to Objection and* Restriction (or Opt Out) and right to *Not Be Subject to Automated Decisions*.

A similar systematic analysis of the limitations of privacy self-management has been presented by Kröger et al[63], who fundamentally question the possibility of informed and rational choices, of voluntary privacy decisions and stress the externalities of privacy choices. Again, using GDPR as a reference, the regulatory blind spots and loopholes are identified, and the study concludes that "*Privacy self-management cannot be fixed*".

The limitations of the consent principle and ist derived artifacts become increasingly evident in other aspects of the infosphere, such as those promised by the Internet of Things (IoT) or ubiquitous computing environments[64, 65], where the "computer" tends to disappear[66]. Alternatives to cookies, like browser fingerprinting[67], adding to the erosion of privacy assurances. Ultimately, uncontrollable and pervasive information extraction in contexts described by Hillor Farahany[renders] the consent mechanism ineffective, even when viewed as a reflective decision.

62 Daniel J. Solove (2023) The Limitations of Privacy Rights, 98 Notre Dame Law Review 975 (2023), Available at SSRN: https://ssrn.com/abstract=4024790 or http://dx.doi.org/10.2139/ssrn.4024790

63 Jacob Kröger, Otto Hans-Martin Lutz and Stefan Ullrich, (2021) The Myth of Individual Control: Mapping the Limitations of Privacy Self-management (July 7, 2021). Available at SSRN: https://ssrn.com/abstract=3881776 or http://dx.doi.org/10.2139/ssrn.3881776

64 https://www.netidee.at/respected-iot

65 Chiara, P.G. (2024). Privacy and Data Protection Challenges in IoT Data and Metadata Processing. In: The Internet of Things and EU Law. Law, Governance and Technology Series (), vol 67. Springer, Cham. https://doi.org/10.1007/978-3-031-67663-5_5

66 Norbert Streitz, Achilles Kameas, Irene Mavrommati (2007) The Disappearing Computer

Interaction Design, System Infrastructures and Applications for Smart Environments, Springer Nature

67 Pierre Laperdrix, Nataliia Bielova, Benoit Baudry and Gildas Avoine (2020) Browser Fingerprinting: A Survey ACM Trans. Web 14, 2, Article 8 (April 2020), https://doi.org/10.1145/3386040

The ubiquity and strength of the consent mechanism varies geographically, ranging from a theoretical similitude in India[68] to a less robust concept of data protection and/or privacy in China[69].

C. The fakeness of consent

From the interaction design point of view, the elements are not "designed" into the digital artifact but rather pasted on it. They are unrealistic and unusable mechanisms for waiving rights or even alienating rights. In general, these consent mechanisms are unavoidable if the user wants to use or access the artifact. But worse than the interaction constraints, consent mechanisms are often faked.

The technical and empirical analysis of the *consent* implementations presented in Bollinger et al [70] and Habib et al[71] provide some factual insights on how consent is given and how is it handled by service providers/platforms and the CMP. Habib and colleagues in "*Okay Whatever*", analyzed 207 websites using CMP to find dark patterns[72] and usability barriers in 80% of them. The paper goes on to perform a user study evaluation of the consent interface designs and identifies the current limitations of consent user interfaces. Bollinger et al, based on the analysis of *almost 30k* websites, report one potential violation of GDPR compliance in 94,7% of that large sample and at least two potential violations in 77,3%. They conclude, based on limited but significant empirical evidence, that "*cookie consent practices violate GDPR so often that regulatory authorities cannot hope to keep up*".

These unconformities are not an ancient problem derived from initial difficulties in meeting the legal requirements. The current technological elements of the infosphere maintain the same hidden and intransparent approach and method[73]

D. Need for new design approaches

If rights are at stake in the infosphere, their level of respect and protection, the risks to their integrity, and the prevention of aggression should be explicitly and contextually expressed, as well as experientially perceived. Just as we enter our homes, drive our cars, buy a bottle of wine, get a ticket for the theater, or perform any other trivial social actions, so too should the simple acts of searching on a search

68 Digital Personal Data Protection Act (2023) with government rules currently being proposed (2025) https://pib.gov.in/PressReleasePage.aspx?PRID=2090048 https://internetfreedom.in/statement-on-the-draft-dpdp-rules-2025

69 Wan Li, Data Privacy and China's "Super App" WeChat, 12 PENN. ST. J.L. & INT'L AFF. (2024) https://elibrary.law.psu.edu/jlia/vol12/iss1/6

70 Supra note 46

71 Supra note 48

72 See for example https://www.insideprivacy.com/eu-data-protection/the-eu-stance-on-dark-patterns/

73 D.J.Leith (2025) Cookies, Identifiers and Other Data That Google Silently Stores on Android Handsets, Trinity College Dublin

engine, commenting on a social media post, purchasing goods from an online store, or signing up for an online magazine reflect the relevant rights and be perceived as respectful and trustworthy, without requiring a reference to a policy document that serves as a para-legal statement. Something new is needed to represent respect for legislated principles – respect prior to consent.

VI. Available empirical evidence

The violations of user's digital rights, as defined by the legal framework, manifests itself obviously in the judicial cases presented in several courts. In the context of this study, for the sake of demonstration, we will recur to the judgements in the European Court of Justice[74] and the administrative decisions of several National Data Protection Offices/Agencies published by the GDPR Enforcement Tracker[75]. The European Data Protection Supervisor[76] gathers case law, administrative decisions and some synthesis reports. We will consider a sample for illustrative and proof of concept purposes here – future work could include detailed analysis.

The tables below synthesize the results, referencing the case, the keywords included in the court's judgement or administrative decision of the DP Office, and a personal comment on the situation, considering which User Experience features seem to have been affected.

A. European Court of Justice[77]

Case Reference	Topics/Keywords as per the Court	User Experience (UX) feature affected
(1) Case C-446/21, Maximilian Schrems v Meta Platforms Ireland Limited	**Protection of natural persons with regard to the processing of personal data :** Personalized advertising – Principles of purpose limitation & data minimization– Processing of special categories of personal data – Data concerning sexual orientation	Awareness of the scope and connections of services; awareness of inference capabilities on behavioral & sensitive information
(2) Case C-604/22, IAB Europe v Gegevensbeschermings-autoriteit	**Protection of natural persons with regard to the processing of personal data :** Concept of 'personal data' – String of letters and characters capturing, in a structured and machine-readable manner,	Hidden dimensions in the commoditized "consent" mechanism; Untrustworthy expression of the interaction

74 EUR LEX https://eur-lex.europa.eu/advanced-search-form.html

75 GDPR enforcement tracker, https://www.enforcementtracker.com/

76 European Data Protection Supervisor, https://www.edps.europa.eu

77 Use advanced search in EUR-LEX, Collection : Case-Law Text search : [data protection | online] + [advertising | sexual | discrimination | right to …] Document reference : Judgment

	…– Concept of 'controller' – Concept of 'joint controllers'	
(3) Case C-136/17, GC and Others [GC, AF, BH, ED] v Commission nationale de l'informatique et des libertés (CNIL)	**Personal data** — Protection of individuals with regard to the processing of personal data in websites – right to erasure / be forgotten (pre GDPR): Search engines, Publication of data on websites for journalistic purposes or the purpose of artistic or literary expression — Effect on the handling of a request for de-referencing.	Awareness and individual control of the publication of personal information and capacity to request its deletion or correction
(4) Case C-60/22, UZ v Bundesrepublik Deutschland	**Protection of natural persons with regard to the processing of personal data :** Lawfulness of processing –Right to erasure ('right to be forgotten') – Right to restriction of processing	Awareness and citizen's control of the public, or state-managed personal information
(5) Case C-394/23, Association Mousse v CNIL and SNCF Connect	**Protection of natural persons with regard to the processing of personal data** Data minimization – Lawfulness of processing – Data relating to title and gender identity – Right to object.	Lack of individual control in the disclosure of personal data for trivial actions in apps & services
(6) Case C-300/21, UI v Österreichische Post AG	**Protection of natural persons with regard to the processing of personal data** Right to compensation for damage caused by data processing that infringes that regulation - Mere infringement of that regulation not sufficient – Need for damage caused	Expectations on the liability of third parties for the use of expressed personal information (connects with EU liability directive)
(7) Case C-634/21, OQ v Land Hessen	**Protection of natural persons with regard to the processing of personal data** Automated individual decision-making – Credit information agencies – Automated establishment of a probability value concerning the ability of a person to meet payment commitments in the future ('scoring')	Awareness and lack of individual control of automated decisions based on personal information. (connects to EU AIA high risk systems)

Table 1 – sample of ECJ cases directly related with data protection & related rights

B. GDPR Enforcement Tracker

The GDP enforcement tracker site provides a significant sample of fines, originated by complaints of individual or legal persons that led to actual fines. There seems to be no organized record of complaints that are legitimate, from the user's

point of view, but were not considered by the agencies as breaking the privacy laws, namely the GDPR[78], and therefore no fines were applied.

GDPR Enforcement Tracker : https://www.enforcementtracker.com			
	%		Accu
75	29,5	Insufficient legal basis for data processing	29,5%
66	26,0	Non-compliance with general data processing	55,5%
44	17,4	Insufficient tech and organizational measures to	72,9%
23	9,2%	Insufficient fulfilment of data subjects rights	82,1%
20	8,0%	Insufficient fulfilment of information obligations	90,1%
14	5,5%	Insufficient cooperation with supervisory authority	95,6%
48	1,9%	Insufficient fulfilment of data breach notification	97,5%
26	1,0%	Insufficient involvement of data protection officer	98,5%
26	1,0%	unknown	99,5%
12	0,5%	other (*)	100,0
25			

Table 2 – Distribution of fines across the type of transgression of GDPR

Table 3 below includes a small sample of GDPR fines cases that cover the spectrum of rights expressed in that act and also refer to some of the issues mentioned above, namely *consent*.

Link to DP Board decision		**Short description of the source problem**	**Violation considered**	**UX feature affected**
https://etid.link/ETid-2536	**T**	… his inclusion in a "blacklist" …	Right to information; Right of access by the data subject	Lack of individual control of personal data
https://etid.link/ETid-2398	**T**	the company had not adequately processed deletion requests & using 'shadow blocking' to remove users from the platform without their knowledge	Lawful processing; Right to information	Lack of individual control of personal data & access
https://etid.link/ETid-2070	**E**	sending out marketing messages, despite the fact that data subjects had exercised their right to objection.	Right to information; Right to object	Lack of control of messaging
https://etid.link/ETid-2052	**I**	psychotherapy services. … request for access to stored personal data. … the company did not inform the customer	Right to information; Right of access	Unawarenes s of personal data status
https://etid.link/ETid-2531	**T**	… collected drivers' location data without their consent , shared data with third parties… no information provided about rights to appeal	Lawful processing; special categories; right to information; automated processing; employment	Lack of control of several types of personal data, like location

78 (there are some references to national laws)

https://etid.link/ETid-2509	**L**	…collected personal data via cookies without users' explicit consent	Lawful processing; Consent	No Consent
https://etid.link/ETid-2509	**R**	**…**controller collected and processed personal data … through cookies without providing opportunity to give or withdraw consent for processing in an informed and voluntary manner	Consent & conditions; Right to information	No Consent
https://etid.link/ETid-2104	**S**	**…** the design of a cookie banner used dark patterns, with the pop-up giving users only choice between consent and access to the settings page.	Lawful processing; Right to Information;	Fake Consent (dark patterns)[79]
https://etid.link/ETid-980	**R**	**..** although websites offered a button to accept cookies immediately, … no equivalent solution … to reject the deposit of cookies. … several clicks required to reject all cookies, in contrast to a single click to accept … users would accept the deposit of cookies out of convenience with more frequency	Right to Information; Right to object (CNIL v. Facebook)	forced or nudged consent
https://etid.link/ETid-978	**R**	(ibidem)	Right to Information; Right to object (CNIL v. Google)	forced or nudged consent

Table 3 – Rationale for the penalties / fines imposed and key points of the complaints summaries

VII. Inspirational designs

The frequent presence of the consent mechanisms as the main interaction device to deal with data protection in the contemporary apps & services has not precluded the design of additional instruments that express a position towards data protection and privacy. These should be considered here as they diverge from the classical approach to consent. Moreover, other aspects of the interaction have created experiential elements to improve trust, while minimizing the need for reflective validation. These should be considered as inspiration for future proposals.

A. Private | Incognito Windows

In the most used web browsers, there exists the possibility of opening a private mode window, like Incognito (*Chrome*), Private (*Firefox* or *Safari*), InPrivate (*Edge*). The use of private windows suggests the navigation itself is more private than with a conventional browser window, leaves a smaller trace by blocking third-party cookies

79 Could be understood within the scope of Fraud by deception as in Fraud Act 2006 (UK), Burla as in Artº 217º Código Penal (PT), or Betrug as in §263 Strafgesetzbuch (DE)

by default. According to existing studies, private browsing is intended to protect users of a device from observation of the navigation behavior by other users of the same device, which is not to be confused with personal data protection from third parties. A thorough and extensive study of private browsing is presented by Habib et al[80].

B. Tracking management

Tracking means collecting personal data, like navigation or selection data, by any app or service, and its sharing with other companies or data brokers for various purposes like advertising of surveillance. General approaches to tracking have been experimented. Apple, associating itself with Privacy : [*Privacy. That's Apple*][81] has explicitly introduced an Opt-in consent mechanism for tracking, commonly known as "Ask app not to track". From iOS (*iPhone*) or iPadOS 14.5, all apps are required to ask permission for tracking. This feature has been initially analyzed in Anzo DeGiulio et al[82] in the scope of mobile privacy. The legal and regulatory concerns were addressed in Hoeppner and Westerhoff[83], and the business impact of such design decisions are recently discussed in Aridor et al[84].

C. Get your Data

"*Get/Manage you Data*" is possible in many of the most used services and platforms[85], directly or indirectly abiding by the obligation to provide information on the user's stored data, provide options to retrieve the stored data from the Account Settings or Preferences panels, usually in a Security or Privacy sub-option. Again, while this may reflect the requirements of the regulatory framework, it does not provide experiential satisfaction, and the amount of data in some cases is practically unmanageable by the common user (see table below for a minimal sample of services

80 Hana Habib, Jessica Colnago, Vidya Gopalakrishnan, Sarah Pearman, Jeremy Thomas, Alessandro Acquisti, Nicolas Christin, And Lorrie Faith Cranor (2018) Away From Prying Eyes: Analyzing Usage And Understanding Of Private Browsing Usenix Symposium On Usable Privacy And Security (Soups) 2018, August 12–14, 2018, Baltimore, MD, USA https://www.Usenix.Org/Conference/Soups2018/Presentation/Habib-Prying

81 https://www.apple.com/privacy/control

82 Anzo DeGiulio, Hanoom Lee, and Eleanor Birrell (2021) "Ask App Not To Track": The Effect Of Opt-In Tracking Authorization On Mobile Privacy. In Emerging Technologies For Authorization And Authentication: 4th International Workshop, Etaa 2021, Darmstadt, Germany, October 8, 2021, Revised Selected Papers. Springer-Verlag, Berlin, Heidelberg, 152–167. https://doi.org/10.1007/978-3-030-93747-8_11

83 Höppner, Thomas and Westerhoff, Philipp (2021) Privacy By Default, Abuse By Design: EU Competition Concerns About Apple's New App Tracking Policy (May 26, 2021). Hausfeld Competition Bulletin, Spring 2021, Available At Ssrn: https://Ssrn.Com/Abstract=3853981 Or http://Dx.Doi.Org/10.2139/Ssrn.3853981

84 Aridor, Guy and Che, Yeon-Koo And Hollenbeck, Brett And Mccarthy, Daniel And Kaiser, Maximilian (2024) Evaluating The Impact Of Privacy Regulation On E-Commerce Firms: Evidence From Apple's App Tracking Transparency. Available At Ssrn: https://ssrn.com/abstract=4698374 Or http://dx.doi.org/10.2139/ssrn.4698374

85 Like Amazon, Airbnb, LinkedIn or similar.

and the data returned for the author‘s accounts). In general, access to the data is not immediate (some days to process requests).

Platform/service	Size of data	Number of items
LinkedIn	1.1 Mb	49 csv files
Amazon.es	85 Mb	1830 csv & json files
Amazon.de	86 Mb	1650 csv & json files
Amazon.in	85,6 Mb	1908 csv & json files
Airbnb	196 Mb	39 items mostly images, including ID
Uber	193 kb	12 csv files[86]

Table 4 – Size and format of the personal data returned by Platform/Services

D. Analogy with other domains

Accessibility has long been a design concern with normative reflections, encompassing both soft law (technical standards), as exemplified by the W3C (World Wide Web Consortium) Accessibility Standards, and positive law like the EU Directive 2019/882 on the accessibility requirements for products and services[87]. The set of standards, guidelines, norms, and laws aims to protect rights related to participation, access to information and services, and non-discrimination, as well as, in the case of the EU, access to its internal market. In this specific domain, normative compliance is expressed through certification/validation indicators, such as conformance logos[88] or badges provided by certification organizations[89].

Verifying users in social networks like LinkedIn or Facebook is demonstrated by visible badges or signs. These are used as a mechanism to avoid or minimize fake news, ofter broadcasted under the cover of anonimity. An indication of the identity of the emitter theoretically assures credibility, or at least recognition of the source, and contributes to a better information space where the freedom of expression and the right to personal image and reputation are better protected. The actual impact and effects of this verification is discussed, for example, in Wang at al[90] and Geels et al[91].

86 In particular all my trips since 2017, delete data only possible with account delete

87 https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32019L0882

88 https://www.w3.org/WAI/standards-guidelines/wcag/conformance-logos

89 https://wcag2.com/accessibility-badge,
https://www.accessibilitychecker.org/blog/best-web-accessibility-certifications

90 Wang, Shuting Ada and Pang, Min-Seok and Pavlou, Paul A. (2018) 'Cure or Poison?' Identity Verification and the Spread of Fake News on Social Media. Fox School of Business Research Paper No. 18-040, Available at SSRN: https://ssrn.com/abstract=3249479 or

91 Geels J, Graßl P, Schraffenberger H, Tanis M, Kleemans M (2024) Virtual lab coats: The effects of verified source information on socialmedia post credibility. PLoS ONE 19(5): e0302323, https://doi.org/10.1371/journal.pone.0302323

VIII. Conclusions and open questions

In this paper I have discussed how rights are experienced in the infosphere and I have argued that existing regulatory mechanisms, while normatively well-intentioned, fail to align with how users actually engage with technology. Legal concepts such as consent, transparency, and data access are implemented through design elements like cookie banners, privacy policies, and terms of service. Yet these operate in a reflective mode of interaction that clashes with the largely experiential, intuitive way users navigate digital spaces. The result is a disconnect between legal intention and lived experience. This is not the way I would suggest digital transformation should happen.

Consent, in particular, I show to be a central but deeply problematic mechanism. It assumes informed, voluntary decision-making by individuals, yet in practice functions as a formality that is not experiential: it is automated, standardized, and often embedded in opaque or manipulative interfaces. We click to consent but do not really reflectively consent.

The commodification of consent through Consent Management Platforms and automated policy generators has led to a hollowing-out of user agency. Rather than fostering understanding or trust, these mechanisms obscure the stakes and offload responsibility onto users who are cognitively and contextually unprepared to make meaningful choices.

From the user's perspective, these legally determined design elements often undermine the very rights they aim to protect. These rights are not seen as safeguards but as interruptions—points of friction that are tolerated, ignored, or bypassed. Trust is rarely built through these interfaces; instead, awareness of legal protections often emerges only in moments of breakdown, when something goes wrong. When personal data is misused, when profiling leads to discrimination, when deletion requests are ignored. A growing body of case law and regulatory enforcement actions across Europe confirms the scale and persistence of such failures. These moments reveal that rights in the digital space are not lived experientially but are instead encountered only when violated. I argue that a sustainable digital transformation contoured by rights has to be envisaged differently.

We have to, I conclude, rethink how law is embedded in digital design. Just as rights in the physical world are often expressed symbolically and intuitively – through signs, colors, rituals, and spatial arrangements – so too should digital environments enable users to perceive and enact their rights without requiring deep legal reflection. Design should aim for respect prior to consent, a principle that shifts the focus from passive legal acknowledgment to active, respectful interaction. This could involve new symbolic elements, contextual cues, or defaults that foreground legal values and user dignity. Rather than retrofitting legal compliance onto digital artifacts, the design of the infosphere should be rooted in a deeper understanding of legal experience: one that

honors rights not as legal abstractions but as lived, felt, and shared elements of everyday digital life.

As Harsh Mander says: „Noam Chomsky has described the *core of a good society luminously – it is a place where we take care of each other".* [92]

92 Harsh Mander, qouting Noam Chomsky, http://harshmander.in.

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