

# Collective Consent in Data-Driven Systems

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## 1 INTRODUCTION

Individual consent remains the dominant mechanism through which data collection and use are legitimized, even as data-driven technologies enable large-scale inference, recombination, and group-level categorization. In most digital systems, consent is enacted through brief, individualized interactions, such as clicking “I agree” or adjusting privacy settings, despite longstanding critiques of coercive consent mechanisms and dark patterns that undermine meaningful choice [11]. While such mechanisms are widely critiqued, they continue to underpin both legal frameworks and interaction design practice, even as alternative models such as data donation attempt to foreground more deliberate participation in data sharing [18].

This position paper argues that the Individual Informed Consent Model (IICM) is increasingly misaligned with the collective nature of contemporary data harms. When data shared by one person can affect others, individualized consent obscures shared risks and limits meaningful forms of control, a challenge now explicitly recognized in emerging discussions around multi-person data and consent [3, 6]. This position paper engages with the workshop’s question of how to envision positive and negative consequences of different consent futures, and how such visions can challenge entrenched assumptions about individualized user control. This paper examines how the IICM has shaped the current landscape of consent and control, and why collective framings are necessary for addressing the realities of data-driven systems in which data routinely represents multiple people.

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## **2 THE INDIVIDUAL CONSENT MODEL**

Western privacy and data protection frameworks have historically conceptualized privacy as an individual right [2], leading to the development of consent-based governance models that emphasize personal autonomy and responsibility. Within this framing, individuals are expected to understand the implications of data disclosure and to manage privacy risks through personal decision-making.

The data economy has long relied on the routine exchange of personal information for access to goods and services, often through standardized mechanisms that mechanize privacy waivers. Data-driven and algorithmic systems intensify these limitations [13]. AI systems can infer sensitive attributes from apparently non-sensitive data, undermining the assumption that individuals can anticipate the consequences of disclosure [16, 17]. Empirical research has further shown that data shared by individuals often contains information about others, such as messaging partners, family members, or cohabitants, thereby implicating non-consenting third parties in data collection practices [3, 6].

Five overlapping challenges highlight why the IICM is increasingly inadequate: (1) its inability to account for unpredictable future uses of data [15]; (2) its failure to address how one data disclosure implicates others [6]; (3) the privacy violations of non-consenting third parties [10, 19]; (4) the production of harmful group-level inferences [8, 16]; and (5) the emergence of new algorithmically defined categories that enable stereotyping and discrimination [17]. Despite widespread recognition of these problems, reform proposals, such as Bill C-27 in Canada, the EU's General Data Protection Regulation, and the UK's Data Protection and Digital Information reforms, have continued to rely primarily on individual consent as the foundation of data governance, leaving collective and group-based harms under-addressed.

## **3 TOWARDS COLLECTIVE FRAMINGS OF CONSENT**

A collective framing of consent shifts attention from isolated moments of agreement to the shared consequences of data disclosure, including how one person's decision can affect others whose data or identities are entangled in the same system. This approach situates individual agency within broader social and relational contexts where data practices produce cumulative and uneven impacts. These shifts also reframe consent as an ongoing social and political question. From a feminist HCI perspective [1], this aligns with questions of pluralism and participation in design, while highlighting the importance of recognizing how experiences of data harms differ across social positions [5]. A collective framing foregrounds how risks and protections are distributed unevenly, and how consent decisions are shaped by relationships, power, and vulnerability [4, 14].

This perspective challenges the prevailing focus on improving individual comprehension or refining interface usability and instead invites design approaches that surface shared consequences, enable collective reflection, and recognize disagreement or refusal as legitimate responses to data practices. Under this framing, consent can become a site of negotiation, where privacy concerns, relationships, and potential harms must be balanced across multiple stakeholders. Envisioning alternative consent futures therefore requires moving beyond optimization of individual choice toward design provocations that make collective consequences visible and open to challenge.

## **4 ENVISIONING CONSENT FUTURES**

Addressing the limits of the IICM requires new ways of imagining how consent might operate. Rather than asking only how to optimize consent interfaces, a key challenge is to surface the positive and negative consequences of different consent futures and make these consequences available for public reflection and debate.

Design offers one way to support this work. Speculative and participatory design approaches can help people explore how data practices redistribute risks and benefits across individuals, communities, and institutions (e.g. [7, 9, 12]). By

making visible how one person's data disclosure may shape opportunities or exclusions for others, such approaches challenge the assumption that consent is solely an individual matter. Design provocations are particularly useful here. By introducing plausible scenarios in which data flows extend beyond their original context, participants can reflect on tensions between convenience, collective risk, and institutional power. These provocations do not attempt to predict technological futures but instead create space to question whose interests consent mechanisms serve and what alternative arrangements might look like.

This work will be advanced through workshops in March and May 2026 in the United Kingdom and Canada. These workshops will use crafting and speculative scenarios to support collective reflection on consent and data sharing practices. Participants will be invited to map how data moves, who becomes implicated, and where consent becomes strained or negotiated. The artefacts and discussions generated through these sessions will support participants in articulating concerns, values, and alternative imaginaries of consent grounded in lived experience.

## 5 AUTHOR BIOGRAPHIES

The authors are collaborators on this research project and bring backgrounds in informatics, human-computer interaction, law, and cognitive science. They share an interest in using collective craft-based and art-led workshops to explore consent, privacy, and responsibility in data-driven contexts.

Kimberley Paradis is a PhD researcher at the School of Informatics at the University of Edinburgh. Her research combines feminist, participatory, and community-based approaches to interaction design with language technologies.

Dr Tara Capel is a Lecturer in Design Informatics at the University of Edinburgh with an interest in how technology can support people's wellbeing and empowerment. Her research combines participatory and feminist research, collaborative design (co-design), design probes and making practices to explore new areas of technology design.

Dr Lachlan Urquhart is a Senior Lecturer in Technology Law and Human-Computer Interaction at the Edinburgh Law School. He is Founder and Director of the Regulation and Design Lab. His main research interests are in the socio-technical aspects of designing, living with, and regulating emerging information technologies.

Dr Jacquelyn Burkell is the Associate Vice-President (Research) and a Professor in the Faculty of Information & Media Studies at Western university. Her research focuses on the social impact of technology and examines how technological mediation changes social interaction and information behavior.

Professor Jane Bailey is a Full Professor in the Common Law Section at the University of Ottawa. Her research focuses on the inter-related privacy and equality impacts of existing and emerging technologies in digitally networked environments, focusing on their disproportionately negative effects on communities already-marginalized by oppressions such as misogyny, racism, homophobia, transphobia, colonialism, and their intersections.

Professor Bailey and Dr Jacquelyn Burkell co-lead Rethinking Consent in Light of Scientific and Technological Developments, a 4-year initiative funded by an Insight Grant from the Social Sciences and Humanities Research Council of Canada. Rethinking Consent's goal is to produce citizen-informed and equality-enhancing reforms of and alternatives to the IICM that better address the collective implications of digital technologies, especially for members of marginalized communities

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