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Colliding ideas: Artistic explorations of data surveillance and data protection

Lucy Royal-Dawson *University of Ulster*
Katherine Nolan *Technological University Dublin*
Eugene McNamee *Ulster University*
Laura O'Connor *Ulster University*
Emma Campbell *Ulster University*
Anna Pathé-Smith *The Open University*
Kyle Boyd *Ulster University*
Daniel Philpott *Ulster University*

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Abstract: This paper presents a case study of a pilot interdisciplinary collaboration between digital technology law scholars and academic creative practitioners leading to the public art exhibition User Content? in Belfast in the autumn of 2024. Called LawTech Collider to encapsulate the premise that communication across disciplinary boundaries is often unpredictable, this interdisciplinary collaboration was conceptualised as a collision of ideas aimed at generating unforeseeable outcomes for collaborators and audience, that could be harvested, analysed and utilised as jumping off points for further work. The LawTech Collider pilot shared research related to data protection issues, particularly in social media and fertility tracking, with academic creative practitioners as the first collision, leading to a series of artistic reactions and discussion. The second collision took place when the audience interacted with the exhibition, evidencing their experience in the form of written feedback. Evaluation of the pilot indicated interest in further collisions with 'silo-bridging' effects and specific methods to promote incursions into the other discipline, and to measure the changing nature of interdisciplinarity over time. The paper contributes a frame of reference to steer practice of the interdisciplinary aspects of the pilot including team-building, goal-setting, the craft and conduct, and evaluating interdisciplinary collaboration.

This paper is part of **The craft of interdisciplinary research and methods in public interest cybersecurity, privacy, and digital rights governance**, a special issue of *Internet Policy Review*, guest-edited by Adam Molnar, Diarmaid Harkin, and Urs Hengartner.

Introduction

In spring 2024, we launched LawTech Collider, an initiative of the Legal Futures Research Project (then Legal Innovation Centre) at Ulster University, with the research aim to develop a methodology using art and creative practice to explore awareness of and public trust in law's ability to control digital technological processes. Later that year in October, *User Content?* opened to the public, displaying artistic responses to data governance in social media, and in pregnancy and fertility apps. This first exhibition was a test of LawTech Collider's mechanics, which follows an 'Ideas Collider' process that was designed in the early 2000s for bringing together the fields of science and cultural practice with the aim of producing arresting, intriguing outcomes, primarily public works of art that communicate and provoke (Gorman, 2020). It is an interdisciplinary activity that embraces the unpredictability of outcomes when disciplines come together.

Our interest lies in developing a methodology for ideas colliding that fits to the legal sphere, particularly where law and (digital) technology intersect. In our case, LawTech Collider brings together the fields of digital technology law and the creative practice of art and design. It addresses not only how to collide ideas to generate new ideas and produce artwork, but also incorporates steps to reflect upon the interdisciplinarity of ideas colliding. Collaborations that bring together law

with other fields, including art, tend to focus on the research outputs rather than pause to reflect on the impact of the collaboration on the disciplines involved (Galanter & Edwards, 1997; Baron, 1999; Finchett-Maddock & Tan, 2022). By colliding ideas, LawTech Collider additionally intends to allow space for the reflexive study of interdisciplinarity.

To seek proof of concept, our first step was to test ideas colliding in the field of law in a pilot to verify that law and art could be collided. Here we present the pilot of LawTech Collider as a case study, demonstrating the craft and conduct of 'doing interdisciplinarity' and its viability as a means for interdisciplinary collaboration in the art and law sphere. We develop a frame of reference that lays out the steps for ideas colliding which includes steps to pause and consider the characteristics and progress in the interdisciplinary arena being investigated.

1: Interdisciplinarity in internet governance research

An interdisciplinary endeavour brings together the distinctive components of two or more disciplines in a single activity, which can be applied to the knowledge being created, the research conducted, artistic expression, education programmes, and theory, as well as to the individuals involved (Nissani, 1995; Newman, 2023). Clearly, academic disciplines have their own methods, specialist terminology, values, epistemologies, publication norms, and research methodologies, acting like disciplinary silos. Bridging these silos can be difficult and attempting to do so can act as a deterrent (Newman, 2023). In the absence of supportive environments or incentives, it may be difficult to overcome these disciplinary differences sometimes described as 'tribalism' or 'cultural barriers' which may even include negative attitudes towards other disciplines (Lattuca, 2001). Such differences can make it difficult to attract funding, gain research-time, encourage like-minded experts to venture into unfamiliar contexts (Newman, 2024) or to be sure of meeting research impact requirements (Gooch et al., 2017). Yet, despite all this, the general view is that interdisciplinarity has the virtue of providing a truer reflection of the inherent complexities and interrelationships that characterise research subjects and knowledge production.

Notwithstanding the positive view of interdisciplinarity, there is little scholarship on how to get researchers from different disciplines to work together productively (Newman, 2023). In his literature review of research involving interdisciplinary collaboration, Newman found a lack of rigour and reflexive analysis regarding the formation and collaboration of interdisciplinary teams. The studies did not contribute to the question of how to get academics from different disciplines to work togeth-

er, focussing instead on the objective outputs.

In the field of internet governance, interdisciplinary approaches harnessing a multitude of methods are commonly applied to researching 'real-world' topics (DeNardis, 2020). However, integrating reflexive elements to examine how such interdisciplinarity works is not at all common. This suggests that a shift to empirical investigation that develops practical strategies to learn how to bring disparate disciplines together could add value (Newman, 2023) especially when, as in the case of internet governance, politico-economic forces overtly shape the research agenda, risking biases that tilt research in favour of industry interests (Deibert, 2020). Deibert (2020) notes that the increase in industry-funded research at higher education institutions may, for example, deter collaborations with social science, arts and humanities to investigate data processing practices by social media companies which prefer to obfuscate such practices. He proposes that interdisciplinary approaches to the field of internet security could build the field to challenge the political and economic factors that bias its current priorities.

Pressure to pursue industry-friendly inquiry is not exclusive to the field of internet governance and has been identified as degrading academic freedom for several decades (Schrecker, 2010). Drawing in perspectives from other disciplines can shift the focus towards areas with a broader public interest and support academic freedom (Deibert, 2020).

1.1 LawTech Collider as an interdisciplinary endeavour

LawTech Collider brings together art, design and digital technology law, acknowledging that these disparate disciplines do not smoothly coalesce and that their coming together may be more usefully figured as collision. The research aim of LawTech Collider is to track, explore and generate new knowledge from the impact of collision while simultaneously and over time developing methodological tools to support this task.

Inspiration for LawTech Collider came from the praxis of Michael John Gorman (as described in his book *Ideas Colliders: The Future of Science Museums,* 2020). For over a decade, Gorman directed the production of works that collided art and science at Science Gallery Dublin (SGD) at Trinity College Dublin. Gorman was influenced by Nina Simon's 'OF/BY/FOR ALL movement' to make museums more inclusive and socially relevant by devising opportunities for visitors to create, share and connect around content (Simon, 2010). SGD exhibited playful, inventive, participatory artworks on a wide range of scientific subjects, often with a research objective

requiring input from the visitors (Gorman, 2020). They attracted tens of thousands of visitors. As well as the research and the playful experience of the exhibition, SGD also sought to engage the curiosity of visitors to shift their perspective or, even better, stimulate their agency to take independent action on the issue exhibited (Gorman, 2020). Trained mediators approached visitors to draw out their interest and stimulate discussion, thought and action.

Taking SGD and Simon's participatory museum as inspiration, LawTech Collider replaces science with law, specifically in this case, the law governing digital technologies. It uses the metaphorical characterisation of our legal experiences as collisions, on the grounds that legal conflicts usually generate unforeseen practical, financial and emotional debris. Law is a narrower focus than 'science', yet its importance to humankind is just as pivotal even if public awareness of how it operates is low (Pleasence et al., 2015). LawTech Collider looks at law's relationship with the rapidly changing digital landscape and the public's limited understanding of their legal rights to data protection. It has a public legal education mission to raise awareness of the law regulating digital technology and its impact on us as data subjects. Also, like SDG, it acknowledges art's role as a kind of universal key to emotional engagement that could guide understanding and behavioural change.

Interdisciplinary endeavours involving law and art are not rare at all, taking their place alongside other 'law and …' pairings, such as 'law and society', 'law and economics', 'law and literature', which encourage an examination of law's dependence on, and connection with, other disciplines (Galanter & Edwards, 1997). Often seen as illuminating law, these pairings tend to underappreciate what exactly the interdisciplinarity entails (Baron, 1999). The Art/Law movement is instructive here, aiming to create a space for resistance and protest through the collaboration of artists, lawyers and agitators working together in pursuit of a shared desire for social change (Finchett-Maddock, 2023). Exploring individuals' art/law practice, Finchett-Maddock and Tan (2022) observe that in the efforts to produce such artwork, and notwithstanding shared aims, institutional and disciplinary boundaries can easily be reproduced to reinforce the separation of the two disciplines. For example, it is often the case that the most accessible and prestigious publications which exist are suited to either an artistic representation or a legal representation, maintaining norms expected for each discipline.

The confluence of art and internet governance for activism and advocacy purposes is already well established. Examples are the performance and arts practice critiquing the surveillance society which has come to prominence in recent years

(Morrison, 2015), Disruption Network Lab (2025) promotes creative works through its platform, Critical Interface Politics Research Group (2025) supports artistic residencies, and works by individuals, such as Emma Campbell's *An Appropriate Hobby* (2014-2019) marking the histories of feminist activist work in the United Kingdom and Ireland, and their state-capture through surveillance technologies. Dima Yarovinsky's *Terms of Service* (2018) visualisation of lengthy terms of use of leading online services provides another example. Art for advocacy is the motivation behind these intersections, rather than exploring interdisciplinarity.

In this project, LawTech Collider takes an inductive approach to understanding the characteristics of art and law's interdisciplinarity through their collision for the purposes of producing conversation points about digital technology law issues.

Drawing on the praxis of ideas colliders and the participatory museum, we conceptualised a rudimentary version of LawTech Collider. This pilot involved two collisions with an opportunity to evaluate each one.

Collision 1: Colliding art and law together with the aim to produce playful and participatory artworks directed at a public legal education objective or at provoking action. The outcomes of the collision are unforeseeable, and those deemed of relevance and interest are further developed by the creative practitioners.

Collision 2: Audience interaction (or collision) with the artwork. The playful and participatory nature of the artwork will determine to some degree the outcomes of the collision, yet there may still be unforeseeable outcomes.

Evaluation: Evaluation of the collision processes while and after they take place. This stage involves gathering evidence to evaluate the processes, the collision outcomes, the impact on the disciplines and the collaborators, unforeseen outcomes, audience participation, action and/or learning, and ideas to take forward to the next collision.

We ran the pilot of LawTech Collider to test colliding the disciplines of digital technology law and art, acknowledging that if the barriers to the collaboration were too great to navigate, there would be little point in pursuing the other aspects of LawTech Collider. In this regard, LawTech Collider was the object of the research for the pilot. Specifically, we wanted to know:

- Did the collisions generate ideas and unforeseen outcomes?
- What impact did the collisions have on the collaborators, audiences, and the disciplines?

To reflect on the characteristics of interdisciplinarity in the internal workings of LawTech Collider, we needed a frame of reference to help focus on interdisciplinarity.

1.2 A frame of reference for guiding interdisciplinary collaboration

As an interdisciplinary endeavour, we sought to steer the collaborative process using a frame of reference that would also facilitate the project's evaluation. Based on the challenges to operationalising interdisciplinary work identified by Newman (2023), we synthesised the collaborative process into four components with guiding questions.

Goal-setting:

- How will the goals of the collaboration be agreed upon? Do they include defining the characteristics of interdisciplinarity in the project? There may be interdisciplinary goals that, for example, address how the disciplinary boundaries will be softened, whether one discipline has a different role to the others, and how to conduct research or collaborate. Equally, there may be discipline-specific goals that have more relevance in their respective silos.
- Is this a one-off or a sustained approach?
- What are the research objectives, if any?

Team-building:

- How is the collaborating team created?
- What works to incentivise interdisciplinary collaboration? What acts as a deterrent? Is it career limiting?

Craft and conduct of collaboration:

- How will communication between collaborators from different disciplines be enabled?
- What strategies do we need in place to bridge the epistemological, ontological and methodological differences, such as explainers or space to note differences and allow discussion?
- How will research methods be selected?
- What scope is there for developing new methodological approaches or ones that are new to one of the disciplines?

Evaluating interdisciplinarity:

- What does success look like?

- How will it be evaluated?
- Can it offer an empirical model of how to get researchers to collaborate across disciplines?

These questions helped us reflect on the interdisciplinary characteristics of LawTech Collider, and we use them in the following sections to build the case study. A feature of interdisciplinary collaboration is recognition of the different perspectives, epistemologies, methods and voices that the disciplines contribute. The following sections preserve the different voices of the authors to maintain a flavour of the variety, resisting the convention of a consistent writing style.

2: Digital technology law as a collider

2.1 Goal-setting for the pilot of LawTech Collider

At this early stage, our aim was a proof of concept to bring together the two disciplines, not to guarantee future collaborations. As noted earlier, we kept our research aims modest, focusing on the outcomes and impact of the collisions.

2.2 Team-building

Colleagues in the Legal Futures Research Project, who are all law, computing or legal tech academics, were invited to offer up their expertise for the pilot. The incentive was the prospect of collaborating with colleagues from different fields. Two law colleagues came forward: Katherine Nolan and Anna Pathé-Smith. They research, respectively, data protection in the context of social media, and the surveillance of fertility and pregnancy data by health monitoring apps, devices and associated services.

Still working in-house, we connected with colleagues in the Belfast School of Art. The prospect of a new interdisciplinary project related to aspects of data protection already present in their work piqued the interest of four academic colleagues who teach, research and practice in the creative arts. Fine arts academics Emma Campbell and Laura O'Connor had previously produced artworks exploring feminist perspectives of surveillance, voyeurism and activism (Campbell & Roberts, 2024; O'Connor, 2025) and had used fertility apps and devices. They were somewhat aware of the trade-off they made to use the apps, and were following court cases contesting the inappropriate use of fertility data gathered from fertility apps (Schmunk, 2024). Interaction designers Daniel Philpott and Kyle Boyd had experience of accounting for data protection in their professional digital design work and of teaching students on the role and responsibilities of designers with respect to

data protection.

With Katherine Nolan and Anna Pathé-Smith leading on the initial topics, we opted for written topic briefs, and in-person group meetings to stimulate discussion and exploration. This mode of collegiate interaction was novel to the participants. One evident risk was that no collision would happen, and that throwing together academics with no previous connection would yield to entropy rather than progress towards an interdisciplinary project. Here the mediating hand of the project lead guided the group dynamics by providing a sense of purpose and value to the interactions. The lawyers stretched their imagination to avoid being overly didactic or pedantic to get across accurately the information and ideas in a manner stimulating for the creative practitioners. The artists and designers, through the discussions and further reading, stretched themselves beyond their pre-existing interests and over the disciplinary boundaries into an awareness of the legal issues. The concept of collision and managed unpredictability provided a kind of safety net for all parties that perfect integration was not the goal, but the creation of energetic propulsion in new directions. Summaries of the prepared briefs are provided in the next section.

2.3 Data protection law in social media

The capacity of information privacy law or data protection legal regimes to effectively regulate data processing by social media platforms has been a persistent topic of scholarship (for example, Hull et al., 2011; Fuchs, 2012; Symeonidis et al., 2016; van der Sloot, 2017; Custers et al., 2013).

Social media platforms are premised upon the mass sharing of personal data by users as a mode of communication and entertainment. These platforms are made economically viable primarily through the tracking and surveillance of users (and other natural persons) to deploy online behavioural advertising based on detailed profiles of individual users, and to sell advertising insights and services (Cohen, 2017). More recently, the quest for more and more data to train AI models (and the near exhaustion of publicly available data) might also suggest that personal data troves held by social media companies have increased in their value to developers.

At the same time, the General Data Protection Regulation (and the UK GDPR which still mirrors the EU standard for now) purports to hold data processing to strict standards (Regulation (EU) 2016/679). Formally, data must be processed only in accordance with a specific legal basis (Article 6, Regulation (EU) 2016/679), and in accordance with the data protection principles (Article 5, Regulation (EU) 2016/

679). A series of the most dramatic data protection decisions of the Court of Justice of the European Union (CJEU) have had Facebook, now Meta, at their core.[1]Throughout, the CJEU has emphasised strong protective standards, including findings that a social media company's dominance may impact the capacity to obtain a valid consent from users,[2]and that the mass collection and indiscriminate use of personal data for advertising purposes may be in violation of the principle of data minimisation.[3]

Thus, we are faced with two seemingly contradictory truths. First, social media companies are predicated on a mass surveillance and commodification of individual experience (Cohen, 2017). Second, the GDPR imposes strict standards of data protection. The confluence of these positions raises questions which we wanted to explore using LawTech Collider: is data protection law effective in regulating social media operators? Is there a gap between formal legal standards and the experiences of individual social media users?

2.4 The surveillance of fertility and pregnancy data

A further and related case study considers the impact of the collection and monitoring of fertility and pregnancy data. This takes place via numerous apps, devices and associated services. By contrast to social media, which can be primarily understood as a communicative context, the gathering of data relating to fertility and pregnancy data can be understood as a more individualised and private exercise. In line with trends of self-quantification more broadly, the individual tracking of menstruation and fertility data has become very common (Lupton, 2016).

While the recording of reproductive or menstrual information is not a new phenomenon, its relocation from a private analogue context to a digital one has provided opportunities for new data analytics and the leveraging of that data for economic gain. Whether it is through the sale of fertility tracking and reproductive services (generally under subscription or funded through advertising), or ancillary to the provision of wearables or health and wellbeing monitoring devices, or the sale of sanitary wear, pregnancy and ovulation tests, 'femtech' has become big business.

1. See C-362/14 *Schrems v Data Protection Commissioner* (ECLI:EU:C:2015:650); C-498/16 *Schrems v Facebook Ireland Ltd* (ECLI:EU:C:2018:37); C-311/18 *Data Protection Commissioner v Facebook Ireland & Schrems* (ECLI:EU:C:2020:559); C-645/19 *Facebook Ireland and Others* (ECLI:EU:C:2021:483); C-319/20 *Meta Platforms Ireland* (ECLI:EU:C:2022:322); C-252/21 *Meta Platforms v Bundeskartellamt* (ECLI:EU:C:2023:537); C-446/21 *Schrems v Meta Platforms* (ECLI:EU:C:2024:834).
2. C-252/21 *Meta Platforms v Bundeskartellamt* (ECLI:EU:C:2023:537), paras 147-154.
3. C-446/21 *Schrems v Meta Platforms* (ECLI:EU:C:2024:834), paras 59-65.

The use of such data has been identified as carrying particularly high risks for data subjects and has attracted regulatory attention in the UK, given the sensitivity of the information (for example, Healy, 2021; Almeida et al., 2022; McMillan, 2022; Information Commissioner's Office, 2023). There has also been significant concern regarding the capacity of data protection law to effectively respond to such risks (Siapka & Biasin, 2021; Alaattinoğlu, 2022). Through LawTech Collider, we explored the use case of fertility and pregnancy data to question the capacity of data protection to address the surveillance and commodification of individual bodies, identity and experience.

3: Colliding art with law

3.1 Craft and conduct of collaboration

Taking these two topics, the legal academics engaged with the creative practitioners during several meetings. While the broader legal topic was familiar to all the artists, the finer points of the emerging research were not, inspiring them to explore the issues further. The legal practitioners therefore had to scrutinise the artworks' alignment with the topics during the development phase. However, beyond explaining the topic and looking at the works' alignment with it, the legal academics had no input into the creative output. Even if they had artistic ideas or visualisations of their own, they had to step back and trust the process, one with which they had little familiarity. We reflected later that the initial collision stage would have benefitted from more interaction, co-creation and workshopping to explore both the topic and its artistic potential, and so nurture deeper interdisciplinary incursions.

Nonetheless, the collision of the topics and practitioners resulted in idiosyncratic work from the experiences, interests, media, and styles of the individual artists. The variation between the eventual works immediately and vividly demonstrated the unpredictability of colliding ideas as a methodology. Here below, the artists and designers in turn describe and analyse the artistic outputs of these collisions. The variety of their voices, interests, and visions is maintained.

3.2 Collision 1: Legal issues and creative practice collide

3.2.1 *Terms & Conditions* by Daniel Philpott and Kyle Boyd

We aimed to investigate the understanding of terms and conditions, which are commonly found in digital products yet notoriously challenging to comprehend. Transparency is a core data protection principle (Article 5(1)(a), Regulation (EU)

2016/679), and yet there is reason to question whether privacy disclosures are accessible or comprehensible to data subjects. Our contribution focused on employing human-centred design (HCD), particularly content design, to make terms and conditions accessible to a broader audience (Interaction Design Foundation, 2024).

HCD requires a profound empathy for the intended users. The principal goal is to identify their problems and devise appropriate solutions, applicable to both digital and physical products. This process may involve understanding the context and the design issue, generating ideas, building prototypes, testing them, and eventually sharing them publicly. Tim Brown, the former head of the international design-thinking company IDEO, describes it as "integrating people's needs with technological possibilities and success criteria from a designer's toolkit" (IDEO, 2024).

Similarly, content design utilises HCD principles by researching user needs, concentrating specifically on the content aspect. This includes examining the content journey, language, emotional tone, and production process, inclusive of the visual style guide (Winters, 2024). We specialise in these methodologies from both practical and research perspectives, aligning with the practices of interaction design (Boyd et al., 2023; Boyd et al., 2021).

To respond to online privacy and data processing practices, we concentrated on current industry practices in how terms and conditions are presented and the issues which can arise for a user engaging with social media apps. We categorised these as six distinct user journeys: user interaction (on social media), internal data usage by social media platforms, third-party data sharing, legal and government requests, selling user data to brokers, and user control over data, including deletion.

By concentrating on these as user journeys, we identified critical content areas requiring emphasis, specifically regarding data collection related to each interaction. We outlined the risks associated with data handling and organised the content into manageable chunks, focusing on user experience (UX) writing which creates clear, concise, and user-friendly text for digital interfaces, guiding users smoothly through products, enhancing experience, and usability (Yifrah, 2019).

Utilising a visual style guide, Philpott designed a series of six pairs of images depicting a user journey and the risks and dangers associated to that journey featuring vibrant colours and highly legible typography, supplemented with line-drawn visuals to support the written content. This combination leverages the picture superiority effect and dual coding theory, indicating that pairing images with words

improves memory retention, as information is remembered twice both visually and textually (McBride & Dosher, 2002).

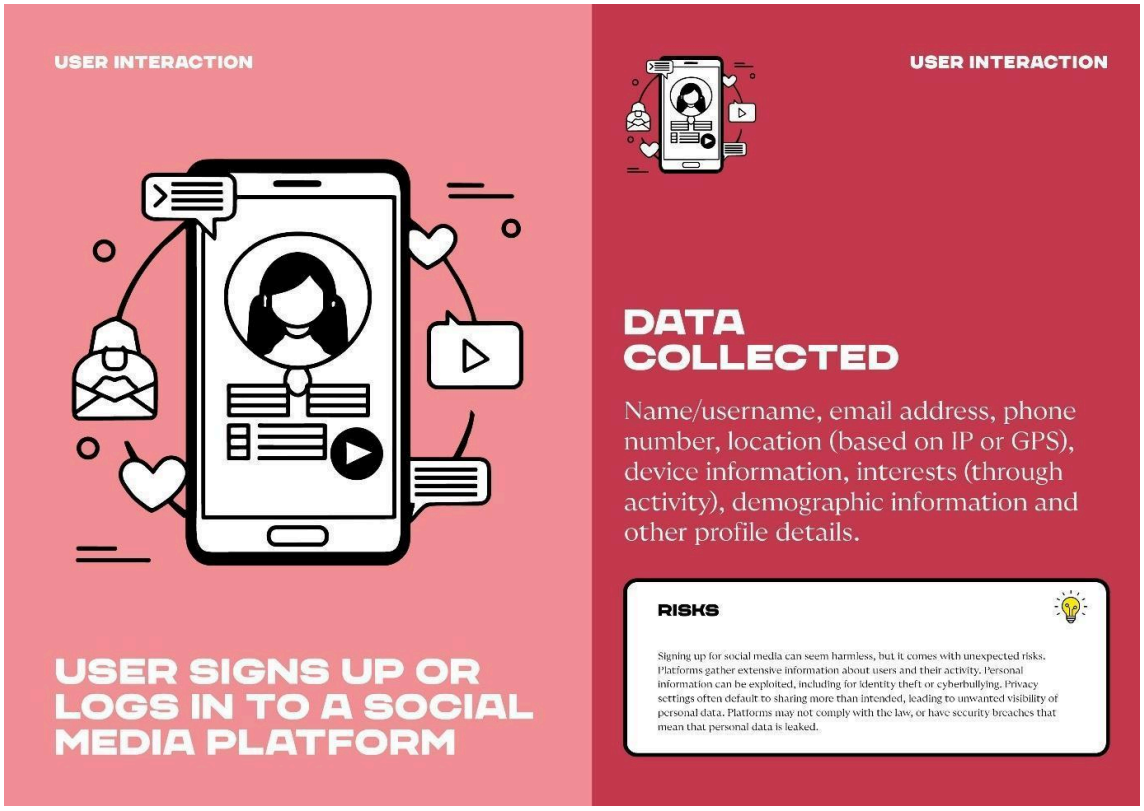

FIGURE 1: Pair of images for one of the six user journeys in *Terms & Conditions* by Daniel Philpott and Kyle Boyd

We printed the six designs as double-sided A4 cards with the user journey on one side and the risks and dangers of the journey on the other. They were displayed on the wall and a set was available to handle. Boyd also transformed this collection into an animation for viewing on a 45" monitor.

For reflections on the process see section 4 below, especially 4.2.1

3.2.2 *Cultural Methods* by Laura O'Connor

Within my art practice I have used the land, soil, and earth combined with the body or performative acts to call out hypocrisies of the Irish state in its neglect of women's healthcare. These works use the 'fertile land' as a comment on the 'pad-dywackery' or stereotypical view of Irishness whilst neglecting the bodies of those living on the land. These pieces are created to entice the viewer to speculate.

Cultural Methods is a multi-media installation, it is a living thing, controlled by fertility data. The work features a modified medicine cabinet with a series of white

plumbing pipes weaving in and out. The pipes are connected to a water tank and in the cabinet are 84 individual shamrock plants, each sitting in their own hole in the pipe. Water is pumped through the pipes and is controlled by a small Raspberry Pi computer. The computer runs 252 lines of data, 3 sets of 84, or 3 months of fertility data. The data set was gathered using a fertility tracking bracelet called the AVA. Worn at night, the bracelet collects body temperature, heart rate, breathing, and sleep patterns. Three of the data elements control individual elements of the hydroponic system. The breathing rate controls the oxygen pump in the water, the body temperature controls the LED heat lamp, and the heart rate controls the water pumping through the pipes. These elements are triggered by an average number and when the data point goes under or above that number the elements go on and off. In the gallery this machine behaves like an organ, or a living thing. The shamrocks are placed in the piece once they have grown to a certain height and the machine operates to keep them alive.

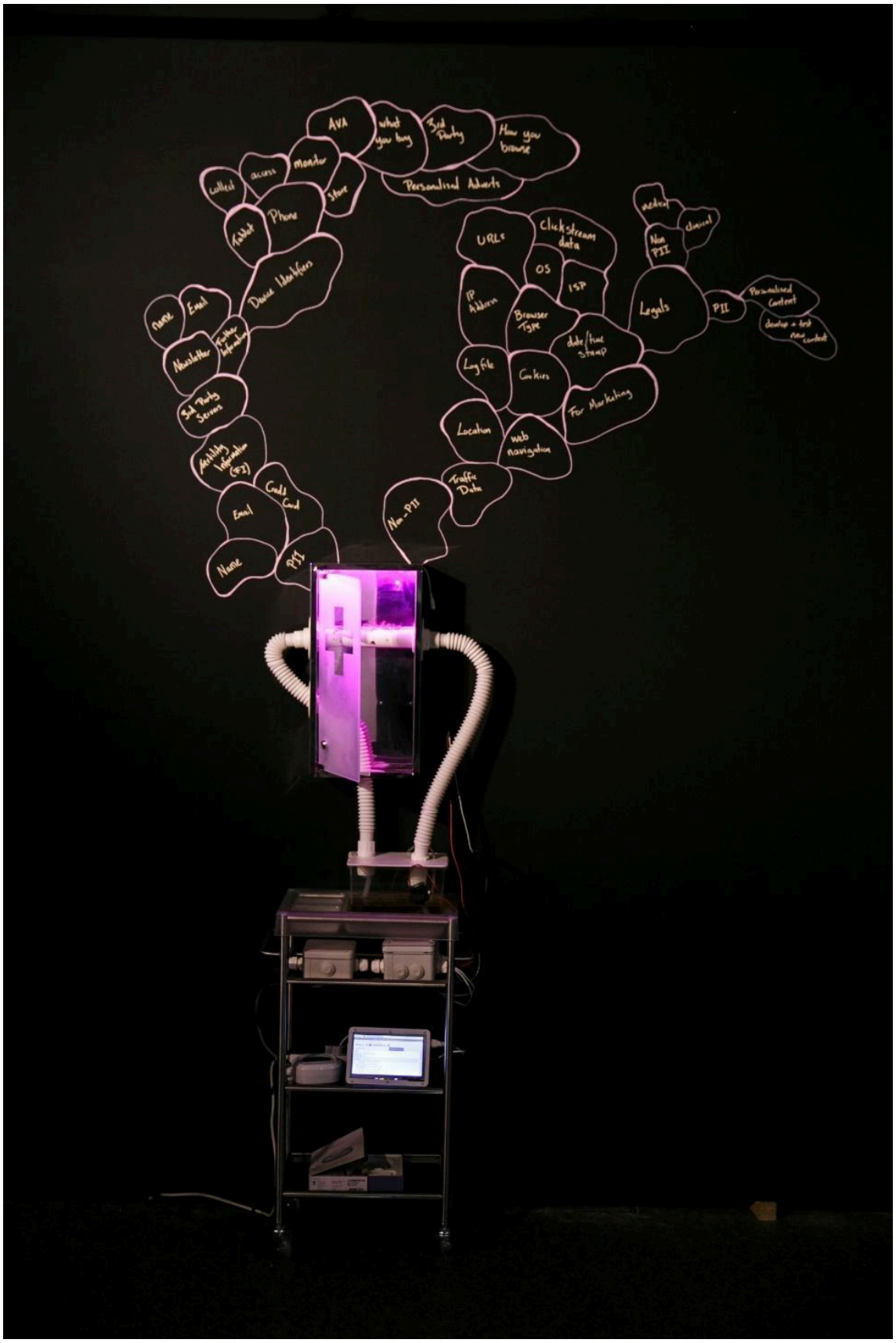

FIGURE 2: *Cultural Methods* by Laura O'Connor

This piece was inspired by the CervicalCheck Screening Programme scandal in Ireland. My interest in this case was based on my continued art practice around women's healthcare and the control of medical data by both the state, and the fertility and health device industry.

The scandal concerned the reporting of false negative cervical cancer test results in the 2010s to over 200 women who went on to develop cervical cancer. In 2017, cervical cancer patient Vicki Phelan by chance saw medical notes revealing that an earlier cervical cancer screening had missed abnormalities. This information had not been disclosed to Phelan because the Health Service Executive's cancer screening body CervicalCheck advised that "*Clinicians should use their judgement in selected cases where it is clear that discussion of the outcome of the review could do more harm than good"* (Scally, 2018, p. 108). This advice ran contrary to the Health Service Executive's guidelines for an open disclosure policy. Dr Gabriel Scally describes this network of legal, judicial, insurance, medical expert and management interests as a 'Medico-Legal Complex' (Scally, 2022).

It was during the LawTech Collider collaborations that I looked into the legal end of the data controlled by the medical device company. Whilst I had sought out my data from AVA via a Subject Access Request, I had not referred to the terms and conditions or explicitly accessed the information concerning where my data were shared. For the LawTech Collider, we discussed how to use this information within the work that would inform the public but not necessarily be as straightforward as a pamphlet or infographic. For the exhibition, *Cultural Methods* was accompanied by a drawing on the wall in the form of bunches of cells. In each cell was named each piece of information that was shared, and where it was shared.

3.2.3 *Fairy Code* and *Digital Brace* by Emma Campbell

Most of Campbell's previous work is concerned chiefly with reproductive justice (Ross, 2006), abortion access (Campbell, 2024), and the use of art in Irish abortion campaigns (Campbell, 2022). These two works, photography and sculpture, explore the themes raised by our law colleagues, Pathé-Smith and Nolan. They have highlighted how biometric data can misrepresent the medical, physical, and mental health needs of women and people with uteruses, and be misused for commercial gain. In the USA, such data is increasingly used to criminalise abortion seekers, raising urgent ethical concerns for reproductive rights globally (Nelson, 2024). These works were made to help viewers consider contemporary data culture, as new versions of ancient stories we continue to tell uterus bearers often still under a false promise of safety.

Digital Brace is an interactive wearable sculpture using found materials; a medical back brace, ribbons, all hand-embellished by the artist with metallic binary (zeroes and ones), to represent digital data, as well as text from found guides to Information Technology. *Digital Brace* was given to a select group of women and non-binary people to wear while being photographed. The physical metaphor of being enclosed or restricted by a 'one-size-fits-all' brace was symbolic of the generalised data being used to advertise around, diagnose, and even dismiss sexual and reproductive health concerns. Biases that can result in the data gathering can then be magnified, when utilised on a global scale, ignoring subtle but important differences.

The main photographic image in the show, *Fairy Code*, was a large composite of 28 portraits to mimic the 28 days cycle. Women have been recording their menstrual cycles for thousands of years (possibly this was the purpose of the Palaeolithic 'Ishango Bone' (Overmann, 2025)) whether to encourage or prevent pregnancy, prepare for bleeding or just plan around menstruation. The knowledge of where a menstrual cycle lands in your day to day is largely present in the minds of people who have periods (Tenenbaum, 2020). The various forms of the portrait models and the associated failings of the standardised brace to accommodate their variousness aims to demonstrate visually the failings of averaged data accumulated from self-selected users of the fertility monitoring devices. When exhibited in the gallery together, the brace shape reminds us of the reproductive body and the decoration details can be examined more fully.

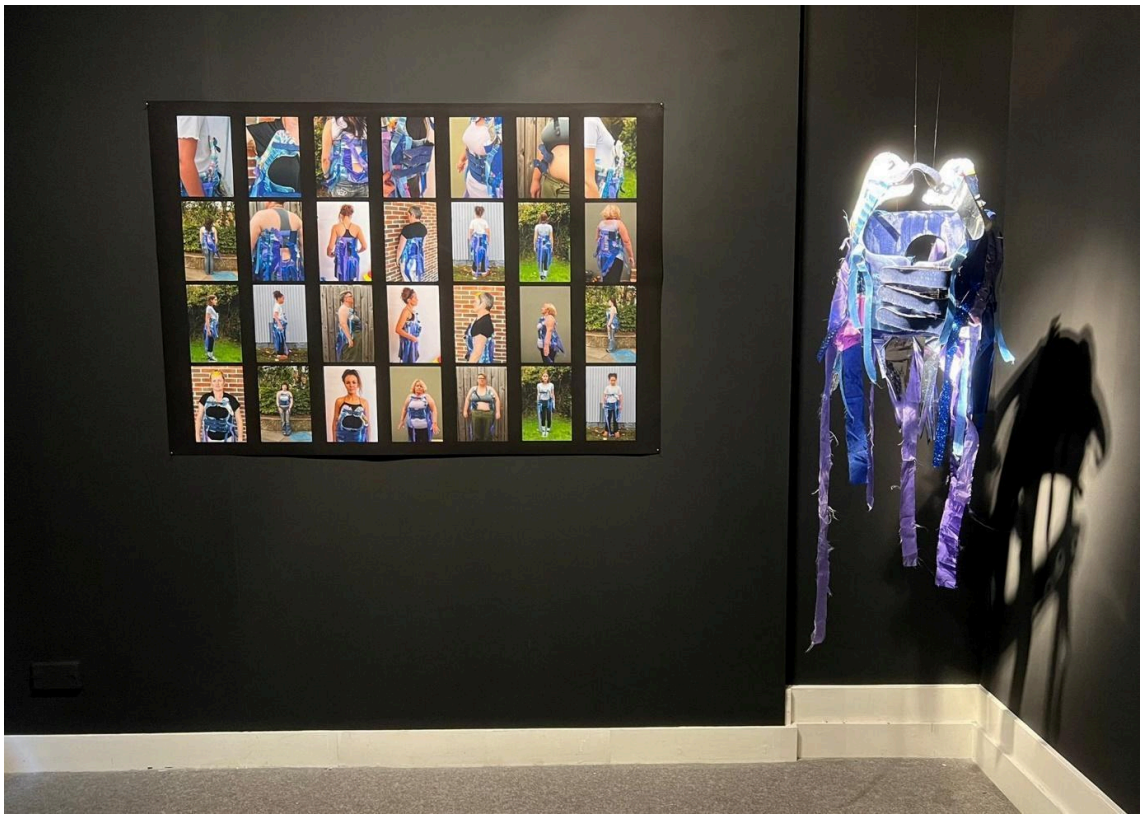

FIGURE 3: *Fairy Code* and *Digital Brace* by Emma Campbell

This work encourages viewers to consider that the ancient framing of women's bodies as powerful has long been twisted into a standardised mould which restricts us overtly and perniciously. Ireland has a strong folk tradition of stories that sought to serve as warnings for women who would defy their roles as hearth-watcher and baby-bearer (Delay, 2012), demonstrating the pervasive cultural need for ways to try and contain the reproductive body, then through fairy myths, now through the promised myth of safety via data. As Americans find themselves "in a reality where the government can access extremely private digital reproductive data without a warrant, subjecting women who live in abortion-restrictive states to intrusive government surveillance that violates their reasonable expectations of privacy," it is worth asking pertinent questions about these concerns via as many approaches as possible (Nelson, 2024, p. 820). Now, more than morality, our bodies are entangled in corporate and state ideological interests, prompting important conversations about empowerment, privacy, and representation.

The experience of wearing the brace is one that underlines the physical consequences of reducing our bodies to mathematical data or monthly equations and could offer additional avenues for participation and feedback.

3.2 Collision 2: Audience and exhibition

The second collision of ideas, the one between the artworks and the audience, took place at Belfast Exposed Gallery over eight days in October and November 2024 as an exhibition called *User Content?* It ran as part of the annual city-wide Festival of Social Science, supported by the UK's Economic and Social Research Council.

The gallery dates for the exhibition during the Festival set a concrete deadline for the creative output of the artists and designers. In addition to the date and location, another curatorial specification was the budget set aside to pay for the production, material and transportation. As academics, the artists and designers incorporated their creative work into their worktime and made modest demands on the budget for reprographics, materials and equipment.

The gallery team installed the three works with oversight from the artists and designers. The space was large enough to allow the pieces to be placed independently, a little distance from each other but close enough for the pieces to seem connected. Explanatory information boards introduced the exhibition and the themes, and title cards accompanied each of the works.

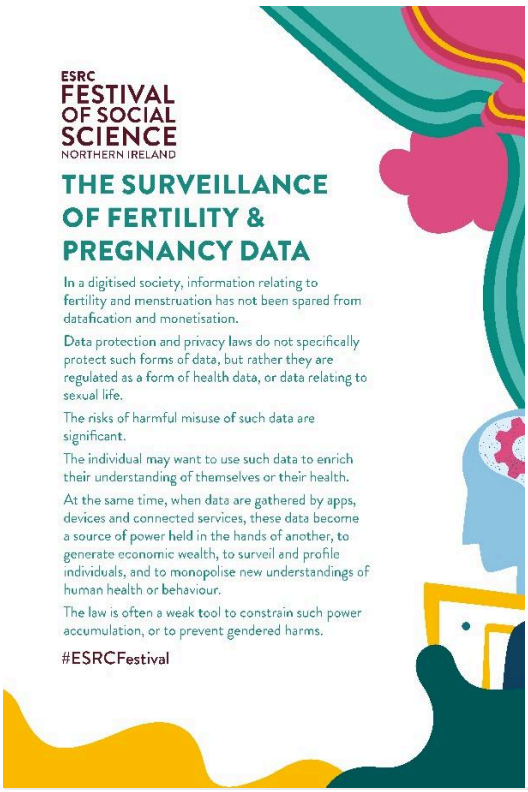

FIGURE 4: Two information boards displayed at the exhibition

The opening night was by invitation only and drew around 30 people. A member of the team, Eugene McNamee, introduced the exhibition and each of the exhibitors introduced their work. The gallery managed access over the remaining eight days. Around 70 visitors attended the exhibition.

As this was a pilot, we did not recruit mediators to help to engage visitors in the exhibits and issues and instead it was a self-guided experience. Project leader Lucy Royal-Dawson was onsite on several of the days and spoke to visitors as they left to ask them to complete a form to record their reactions to the exhibits. The visitors' reactions are presented below.

4: Evaluating ideas colliding as an interdisciplinarity research methodology

As the final component of the collaboration, we evaluated the process, the collisions, their outcomes and the nature of ideas colliding methodology.

4.1 Team-building

The pilot used direct invitation to gather the team members, serendipitously land-

ing on colleagues who were curious and willing to be involved despite their already heavy teaching and research loads. The presence of project oversight, a budget and administrative support alleviated some of the work to initiate and collaborate in a new research project. Nonetheless, demands were made on colleagues' time which added to their workload. Finding mutually convenient times to meet proved difficult. Future collisions would likely benefit from an agreed workplan with scheduled meetings and exhibition dates to allow time for the collisions and creative processes. The pilot highlights the argument for academic colleagues to be allocated research hours to enable them to participate in projects of this kind.

Inviting collaboration from beyond academia using an open call is yet to be explored but is in tune with the notion of yet more challenging collisions. It presents the issue of remuneration or other incentive for work undertaken that for these participants counted as research outputs.

4.2 The first collision process

To prevent the reproduction of institutional and disciplinary boundaries which reinforce disciplinary separation, methods to appreciate the other discipline and their mutual commonalities at cognitive, interpretative, emotive levels are needed to impart meaning to the topics (Finchett-Maddock & Tan, 2022). For this pilot collision of ideas, the collaborators reflected on our experience at a panel discussion which was held to mark the close of the exhibition.

4.2.1 Did the collisions generate ideas and unforeseeable outcomes?

The collision manifestly generated ideas as demonstrated by the works in the exhibition. It inspired ideas for further creative work, such as gamified T&Cs, all of which remain on the table as a basis for future possible collaborations. Colliding art and design with law proved to be as possible as colliding science with art at Science Gallery Dublin.

The topic made us think about aspects of data protection generally ignored, such as who benefits when we allow data sharing. For the digital designers, we identified a gap in design pedagogy that explains how data is utilised in the interfaces that students create (Kitkowska et al., 2022). Ensuring functionality is essential, but designs must also be ethical, follow legal standards, and emphasise potential misuse or misunderstandings to promote responsible use. For example, presenting T&Cs to a user as part of the early stage of adopting an app can be seen as a necessary but perfunctory design task and little time is spent on it. This collision with law colleagues exposed gaps in our own practice and understanding. It made us

reflect on how T&Cs can be presented to engage users more deeply and meaningfully. The collaboration indicated how useful it would be to have legal practitioners or researchers in design classes to explain the importance of topics like IP and data protection in design work. The potential to develop a pedagogic collaboration like this is one of the sparks emanating from the collision.

An interdisciplinary difference of opinion arose in relation to the role of transparent information provided to users as a means of improving data protection outcomes. As a design ethic, transparency and clarity to promote user engagement is key, yet for the lawyers, there is scepticism over whether this alone can improve data protection. A further idea that emerged from this collision is the need for exploration of what impact more transparently communicated terms of service could have on data protection outcomes.

4.2.2 What impact did the collision have on the collaborators and disciplines?

LawTech Collider creates a new space for collaboration beyond our familiar bubbles. In this instance, both disciplines are invested in methods (legal and creative) for exposing and exploring how our everyday technology usage is exploited and controlled. This common ground bridges the disciplinary silos, rallying around a shared social change agenda similar to the impetus behind activism groups such as the Disruption Network Lab and the Art/Law Movement (Finchett-Maddock, 2023). We did not embark on defining any common ground initially but now that it has been identified, the shared appreciation across the disciplines strengthens LawTech Collider's objective of public legal education and deserves to be front-loaded into the collision methodology.

Working together made us consider how we explain ideas in a way that is lucid for the other discipline. We need to be able to understand how others will see or appreciate the ideas, which makes us adapt our praxis and shift perspective. This realisation made us alive to how our own discipline determines idea formation, communication, methodology, and approaches to problem-solving. An example is how law tends to be prescriptive with legal interpretation supported by precedent. The collision of the legal issues with the artists and designers sparked emotional responses, triggering a narrative of the issues usually excluded from legal interpretation. Remarking on the affective responses, one of the legal academics noted how they had as much legitimacy as a legal response to the issues. Further to this was one of the legal academics' appreciation of the metaphorical economy of the ill-fitting back brace in *Fairy Code*. Its capacity to express how the law does not recognise different bodies with different needs stood in sharp contrast to the many

words she would need to explain the legal concept of equality.

These examples of how the collision made the lawyers see their topics through different eyes were complemented by the creative practitioners. One of the designers found working on the contents of user service agreements kindled a desire to explore the issues more deeply to inform and improve his design work. One of the fine arts practitioners found being asked, both by the lawyers and in an open public forum, why and how her work responded to the legal issues resulted in her ideas becoming more robust.

The designers noted that the collision process is in some ways not that different to what they do professionally. Their fundamental role is to facilitate others' understanding of the world (Berkun, 2020). They frequently negotiate with individuals from different disciplines, and even other creatives, ensuring needs are adequately represented in the final product. However, they also appreciated that they need to prioritise user needs over the preferences of other parties (Gada & Chudasama, 2024). A significant difference with LawTech Collider is that their professional role does not prompt them to reflect on the process of interdisciplinarity.

4.2.3 Methods used in the first collision

LawTech Collider aims to celebrate and exploit the unpredictable outcomes that arise from exploring the law and legal research concerning digital technology in creative contexts. These collisions are more than a transactional artistic commission because the collaborative process leads to not only affecting pieces for public engagement but also to interdisciplinary revelation and unforeseen outcomes. Requiring the collaborators in the pilot to be self-reflexive and share their experience provided qualitative insights on the interdisciplinarity. Yet, the reflexive strategies could be strengthened and made more overt in the collision process to draw out a deeper understanding of the craft and conduct of interdisciplinarity. At the early stage of the collision, a greater use of co-creative methods, such as arts-based workshops, to explore the legal issue and artistic expression are needed to broaden the point of impact and project more debris into each other's disciplines. Transmitting the legal ideas using such methods can always be supported through further reading. An expanded itinerary of meetings early on should also be directed at understanding each other's discipline and any common ground to appreciate the interdisciplinarity of the exercise.

The use of diaries throughout the next collision is recommended to capture the collaborators' benchmarks for their prior perspective of the other discipline, their hopes, fears and concerns about working in collaboration, followed up by subse-

quent reflections gathered at intervals over the project (Robson, 2002). The collaborators could also be asked to offer their epistemic revelations on interdisciplinarity, any barriers they encountered, any discipline-centric orthodoxy that hindered communication or progress, and how the collisions changed their appreciation of or even expertise within the other discipline. These contributions would provide a broader empirical basis for defining the collision process as an interdisciplinary exercise.

4.3 The second collision

4.3.1 Did the collisions generate ideas and unforeseeable outcomes?

On exiting the gallery, visitors were asked for their opinions of the exhibition and what they thought the works were trying to convey using a short questionnaire of five open-ended questions. We received 35 responses. Using thematic coding (Braun & Clarke, 2006), their coded responses indicated that the visitors recognised the topic as data protection when using social media apps and/or fertility/pregnancy tracking apps. However, for some visitors, the issues raised was what stood out for them, while for others it was the exhibits and the capacity of art to provoke thinking or an emotional response. Reactions included surprise, disgust and disinterest that harvested data, including fertility data, are used or sold to construct categories of online users for targeted advertising. Some had a sense of powerlessness as individuals in resisting tech corporations' use of our data, while others experienced a realisation of the power that data harvesting accrues for corporations. The need for vigilance of the threat to our privacy if we elect to use these apps was also brought to the fore.

These understandings are an indication of the potential of LawTech Collider's public legal education mission to raise awareness of the law regulating digital technology.

An unforeseen outcome of the second collision arrived in the shape of an invitation to hold the exhibition and a related conference on data protection at the Public Records Office of Northern Ireland (PRONI). This was a particularly exciting development given the cultural power of PRONI as a kind of societal memory operating the value-laden filtering of what data to preserve and what to discard. This next iteration of the Collider enables us to further tune the process and methodology.

4.3.2 What impact did the collisions have on the audience?

An indication that the exhibition may have had an impact on the visitors' future

action or behaviour was obtained from those who stated their intention to be more vigilant, to read the T&Cs in more detail, to be more critical and reject T&Cs more often, to read up more on the topic or to tell others. For others, the exhibition served to remind them of what they already knew and did not prompt them to action. Again, as a proof of concept, the visitors' responses suggest the exhibition had the potential to inspire behaviour change on the selected topic.

4.3.3 Methods used in the second collision

LawTech Collider's aim is to educate or inspire action related to digital technology law through engaging with art. Measuring the audience's learning or action were not objectives of the pilot but future collisions will incorporate strategies to support this, such as video 'truth-booths', sustained contact and workshops with visitors (Simon, 2010).

The number of visitors was modest and we recognise that gallery visitors are self-selecting. Their readiness to visit a gallery suggests a propensity to engage with art in a way that those who do not visit galleries may find alien. Future iterations of the public presentation of collisions will need to develop the audience to increase the collider's reach and open up the possibility of qualitatively different responses from people who do not tend to visit galleries. We are looking at expanding the second collision to schools and tertiary education through an outreach programme on digital awareness and safety.

Conclusion

In this paper, we have used the pilot of the LawTech Collider as a means for getting researchers to collaborate across disciplines. We applied the frame of reference for interdisciplinary work as a rubric for implementing and evaluating the steps towards interdisciplinary endeavours.

The pilot of the LawTech Collider provided proof of concept. The first collision resulted in a variety of artistic creations that explored legal issues in new and interesting ways. The second collision sparked different reactions from the public, from becoming more aware to wanting to change their behaviour, showing the power of art for fostering engagement and raising awareness. The collision also sparked the second iteration in the form of an additional exhibition and conference, demonstrating the value of building in mechanisms to take account of unexpected outcomes and to follow where they may lead.

The pilot took place in a spirit of experimentation; taking a leap in the dark with

time and resources and entering the unknown unrestricted by the need to produce outputs to order. The collaborators joined the experiment with an open mind unaware of significant time pressure it would put them under. Squeezing in an unscheduled project proved a burden on already heavy workloads. To avoid overburdening colleagues, we endorse the position that this flexible approach to interdisciplinarity requires institutional support to allow it space to flourish (Newman, 2023).

While there are details to iron out for how the LawTech Collider will develop, the frame of reference for guiding how to do interdisciplinarity provides the scaffolding to develop the craft and conduct of interdisciplinarity. Stepping closer to another discipline brings insights and revelations at individual and disciplinary levels. We identified two key features of the methodology for ideas colliding as an interdisciplinary exercise. Firstly, it is important to establish the mutual understanding and appreciation of the two disciplines between the individual collaborators. LawTech Collider is not intended as a vehicle to commission works of art to order, but rather to establish space and time to explore the topics, fill gaps in knowledge, and deepen creative reactions. This overt reckoning allows the disciplinary boundaries to be defined, while revealing shared understandings, perceptions, and common stereotypes or misconceptions about the other field. This should not only provide benchmarks for the individuals to use retrospectively as they reflect on the process and the nature of the interdisciplinarity, but also build relationships within the group. Specific methods for this process could include arts-based workshops, discussion and reflective diaries.

The second feature of the methodology is the measurement of change with regards to the disciplinary boundaries and to the collaborators' views. Ideas colliding creates the opportunity for disciplines to encroach on one another. This can be at the level of a discipline's epistemology, methods or praxis, and the collaborators' knowledge and own practice. These impact points in the collision process may arise as common ground, willingness to explore, differences of opinion or conflict. LawTech Collider's frame of reference incorporates reflection and analysis to aid understanding the implications of these impact points on the disciplines and individuals. In the pilot, the collision reinforced for the interaction designers the importance of their students not paying lip service to the inclusion of data protection protocols in their designs and an interest in exploring innovative ways to improve data protection. The collision for the fine artists focused their interpretation of the issues into creative practice that had more salience for an audience. The collision revealed to the legal practitioners how emotional artistic responses to their issues

are a powerful way to disseminate their research. These revelations have an impact on the individuals, and the next step for LawTech Collider is to explore their impact on the disciplinary boundaries. Is there, for example, a new discipline called the art of data protection?

LawTech Collider's process to allow reflection on interdisciplinarity distinguishes it from Gorman's ideas colliding, which, like 'law and…' initiatives, focused on the artistic or research outputs. This additional reflective layer needs time, resources and the collaborators' interest to maximise its potential. The proof of concept for LawTech Collider opens the door to further collisions in digital technology law and other legal topics. The frame of reference offers an approach to ideas colliding for other disciplines beyond law and art and design.

The different perspectives, voices, methods, and epistemologies from the disciplines are essential to LawTech Collider. Accordingly, the different language, ways of developing thought, ways of reasoning should not merge to become a new discipline but instead remain distinct so that their view and interpretation of the other discipline(s) or of the outcomes of the collision maintain integrity with their topic. An aspect of the distinction between the disciplines arose while preparing this paper which has contributions from all the collaborators. Naturally, we responded from the praxis of our disciplines, resulting in different styles according to discipline orthodoxy as well as individual idiosyncrasies. Indeed, even in this article, rather than re-write each section to conform to one voice, we have kept the distinct styles to honour our respective backgrounds and respect that interdisciplinarity does not have to mean coalescence.

The pilot of LawTech Collider has shown that ideas colliding is a means to not only perform interdisciplinarity but also explore the nature of the disciplinary boundaries through its operation. Future iterations should adopt overt co-creative and reflective methods to yield qualitative evidence of the nature of the disciplinary boundaries and the individual revelations of the collaborators.

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