25TH INTERNATIONAL CONFERENCE ON ENGINEERING AND PRODUCT DESIGN EDUCATION
7-8 SEPTEMBER 2023, ELISAVA UNIVERSITY SCHOOL OF DESIGN AND ENGINEERING, BARCELONA, SPAIN

RESPONSIBLE DESIGN FOR (NOT WITH) HARD-TO-REACH USERS

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ABSTRACT
Urgent new priorities, ranging from social inequalities to the climate emergency, are creating new roles for design professionals. Design education responds, fostering responsible design through collaborations with new kinds of stakeholders, technologies and expert advisers.
This is an example of such a multidisciplinary, design-led, innovation project, with some student output and learning outcomes, reflections and subsequent developments. In a Masters course that emphasises personal purpose for change-making in the world, and alongside other units focusing on designing with ethical, environment and social responsibility, this 3 week unit tasked MA/MSc students of Innovation Design with applying artificial intelligence and machine learning technologies to human rights and humanitarian issues. The project brings expert insights, inspiration and guidance from fields of AI and ML, but also international criminal law & war crimes, collective intelligence, gamification, gender-based violence and people trafficking. The process and outcomes are shared as examples of rapid learning from an intensive activity, with little technical instruction and no primary user research.
Here the designer acts for users and stakeholders outside of the consumer-corporate dynamic. The beneficiaries may be victims of human rights abuses and cannot ethically be included directly in research or testing by students. Despite this, the project demonstrates the value of secondary research and empathic methods alone. In an open-ended qualitative survey, responding students expressed appreciation for the opportunity to explore such challenges, and for a sense of purpose, reward or validation in their efforts to create futures that are inclusive and just.

Keywords: Humanitarian, crime, human rights, legal

1 CONTEXT AND BACKGROUND
As is clear from the urgency of the themes in this conference, we are in a time of rapid change in design priorities, and these must be reflected in design education. Only a decade ago we would expect to facilitate student collaborations with corporations and design agencies, exploring new ways to meet customer needs, with the implicit and often unquestioned goal of commercial profit. Now, outside academia, urgent new priorities range from social inequalities to the climate emergency, combining with a widespread recognition of design's tools and methods in broader spheres of application [see e.g., 1, 2], to create important new roles for design professionals. These roles are reflected in design education, fostering responsible design through collaborations with new kinds of stakeholders, technologies and expert advisers. This may coincide with a shift from technical colleges to universities, "towards research and critical enquiry, with more of an emphasis on how design can contribute in more substantial ways to human well-being" [3].
In a previous account I discussed the challenges of experiential learning [4] for innovation design, for complex and risky contexts. Examples were shared of contrasting possibilities [5], in which benefits of immersive learning (such as increased empathy and contextual understanding) weighed against the challenges (such as risk of physical or emotional harm) involved in first-hand encounter. In the safer, studio-based example there was little likelihood of serendipitous insights, and all contextual understanding was indirect, reliant on designers' empathic ability and limited to what information expert contributors considered relevant.

Building on these examples I share a similar challenge here, in which students had neither first-hand experience of the context, nor could they make any user contact, for practical and ethical reasons.
Framed within a Masters course that emphasises responsibility and personal purpose for change-making in the world [6], and alongside other units focusing on designing with ethical, environment and social responsibility, this unit tasked MA/MSc students of Innovation Design with applying artificial intelligence and machine learning technologies to human rights and humanitarian issues. Concepts were developed in an intensive 3 week block after the briefing talks.
The project brought expert insights, inspiration and guidance from fields of artificial intelligence (AI) and machine learning (ML) within the institution, but also contributions from guest experts in international criminal law & war crimes, collective intelligence, gamification, gender-based violence and people trafficking. The structure and outcomes are shared as examples of rapid learning outcomes from an intensive activity, light on technical instruction, and without direct user engagement.
In this, as for many of the services and products conceived by students of this programme, the designer's intent is for users and stakeholders outside of the consumer-corporate dynamic (whereby a desired service is paid for in a transaction, with money or attention). Just as in commercial design, a user-centred approach is understood to be necessary for any hope of success [see e.g., 7, 8, 9], that is, in order to conceive and develop a response that meets the needs of those affected by the issue in question. More than this though, explicit inclusion of affected people is considered a moral and ethical duty incumbent on the providers. To borrow from humanitarian innovation discourse: "demonstrating how the rights and interests of affected people are respected in an innovation process ought to be a minimum standard." [10]. This respect applies to the intended end users, but naturally also to anyone involved in the research and testing phases of design and implies careful consideration of privacy and other risks. We might even question our 'right' to expect such participation; "designers must account for the structural conditions of users' lives, as they may have safety, accountability, and political implications" [11]. At a macro perspective, one critique argues that the "technological fix" offered by "do-good design performs the grassroots ideological work of neoliberalism by promoting market values and autoregulation." [12]
Commonly in this teaching environment, as in many others, students are encouraged or required to demonstrate user involvement in their developing designs wherever possible. In this project though, affected people cannot ethically be included directly in research or testing by students, because of potential risk to themselves or the students. They may be victims or potential victims of traumatic circumstances and abuses. This constraint was compounded with other limitations of time and technical knowledge. Still, with other taught projects focusing on user research, prototyping and technical testing, the emphasis of this unit was on rapid creative responses, based on a rich briefing of inspiration and information.

2 PROJECT BRIEF, STRUCTURE AND FORMAT

In this project, students were challenged to develop creative, human-centred design proposals, grounded in technical feasibility, exploring how communities and legal experts might use big data and AI to provide a deterrent against, and increase convictions for, human rights abuses.
The unit was run twice on consecutive years, in blended format due to post-COVID restrictions. Participants worked in pairs and threes, in person where possible. The project challenge was introduced in a full briefing day, introduced by the unit tutors then followed by talks from a range of contributing subject matter experts (see Acknowledgements) on the subjects of AI, ML, collective intelligence and big data models and applications; human rights and the digital/data landscape; human trafficking and gender-based violence; gamification for humanitarian context.
Students were reminded of ethical requirements for taught PG students, and especially of the need for caution, to avoid risk of emotional or physical harm to themselves and others.
As second year Masters students they were expected to define their own process, with access to tutorial support every few days and to college technical services. The assessed outcome was in the form of a short video or viva presentation explaining the concept, its background and rationale, and the team's process.

3 SAMPLE WORK, DESIGNED OUTCOMES

Students produced a range of concepts, focussing on different areas in the remit of the brief, mostly digital or service innovations. Indicative examples are shown in Figure 1.
1. *J{AI}NE DOE* provides assistance for law enforcement officers against sex trafficking. AI-

generated victim personas are automated and scaled to engage online groomers.

2. Gathering secure evidence against intimate partner violence, *Cepi* can record audio and summon help without putting the user at risk. Trigger words start recording and summon law enforcement.
3. *Project X*: An anonymising camera app protects protesters while still allowing public sharing. Fictitious faces are AI generated to replace real people and are shared anonymously on a public account and in a secure repository. Can be reversed for use in legal cases.
4. *ClearCard*: Enables asylum seekers to match and source agreed facts from third party evidence, in support of their claim. In the UK, many refused asylum claims are appealed, and around ¾ are subsequently granted.
5. *Uncover*: a browser extension to spotlight likelihood of indentured labour to consumers and suggest alternatives.
6. *Seen Voices*: art-based mental health support system and qualitative data gathering tool for refugee children.

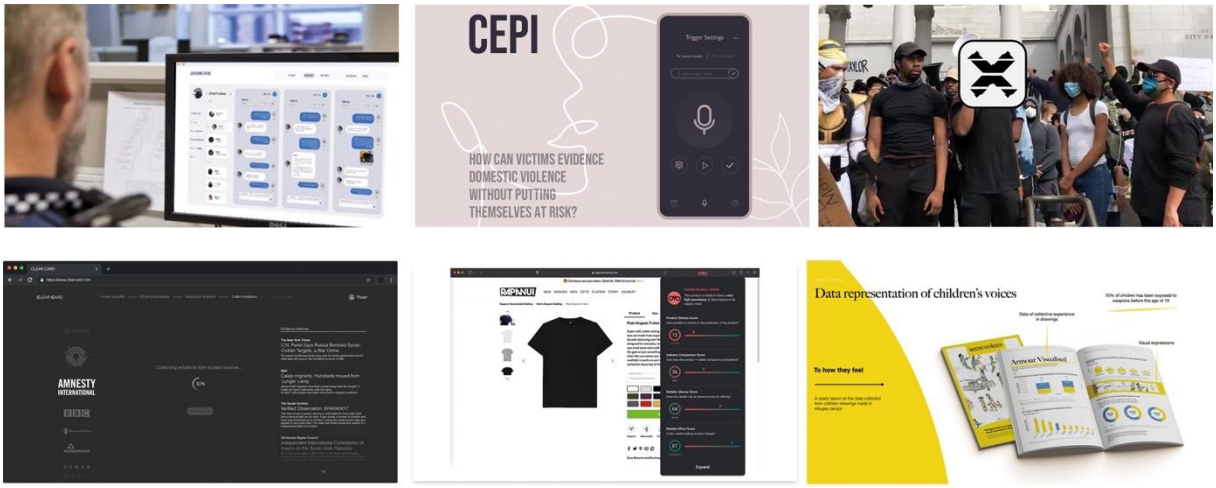

Figure 1. Example concepts (top L-R) J{AI}NE DOE, Cepi, Project X, (bottom L-R) Clear Card, Uncover, Seen Voices [credits: redacted]

(Credits: Grishma Bhanderi, Seetharaman Subramanian, Harrison Tan, Jingyi Li, Axel Pietschker, Ziqq Rafit, Nikolaos Grafakos, Millicent Wong, Tong Lo, Ahad Mahmood, Alasdair Grant, Yilin Wen, Arnau Donate Duch, Weixinyue Peng, Aura Murillo Perez, Louise Lenborg Skajem, Luqian Wang)

4 STUDENT REFLECTIONS

Some months after the project, a simple, open-ended questionnaire survey was made with all participants. Nine students responded in some depth, with feedback indicating a strong appreciation for the opportunity to explore such challenges, for the engagement with passionate and committed actors outside of the product/ service industries, and for a sense of purpose, reward or validation in their efforts to create futures that are inclusive and just. Several projects have been carried on by students for further development, and students have expressed a desire to work in related fields after graduation. The following are indicative extracts.

4.1 What were the best parts of the project?

For most, the input from 'real' experts working in challenging issues was inspiring and brought a greater degree of authenticity to the brief. The subject area itself felt meaningful and important. The briefing days were very full, with a lot to deal with emotionally as well as intellectually:

> "Intro talks with big range of speakers were super engaging and interesting (maybe bit intense though)"
>
> "The best part of the project for me was hearing from experts in the field talking about the difficulties faced with images and information capture of human rights violations in places such as the middle east, and how technology was helping the researchers and lawyers verify true information and media from fake and doctored images. It greatly inspired [our brief] and the approach we took."

"The guest talks during the first two days uncovered a lot of opportunities."

The technology introduction was useful and thought-provoking for some:

"Thinking high level about how to apply machine learning to help social issues felt fulfilling and gave us a lot of energy to push the project."

"…using technology to solve some of the media capture and verification issues faced in documenting human rights violations…was a scenario I had not considered before… For all the negatives that automation in technology can bring… someone somewhere is finding a good use for a new technology."

For others it felt too superficial to be meaningful, though many were excited to learn about collective intelligence, in relation to crowdsourcing and processing evidence:

"Understanding the principles of collective intelligence especially".

"I was new to this approach and found it really inspiring (and actionable)."

4.2 What were the weaker parts of the project for you as a learning experience?

Most frustration was expressed about the short duration and consequent reduced opportunity to connect with any stakeholders – not only users but other gatekeeper experts:

"Lack of opportunities or time to establish relationships with direct users and their care takers made it difficult to validate the viability of our idea."

To get deep enough into the context…

"It felt reductive not being able to consult anyone when designing such a system, but that is the nature of sprint projects. That said, the issues and challenges faced by asylum seekers are harrowing but are also fascinating subject area that demands more attention."

…or to go more deeply into the technology.

"I would have deeply loved to actually work with AI/ML engineers to whip up a prototype or develop a working concept. I think it [is a factor of] the short duration of the course, and I would have loved to work on this project for longer."

While some were frustrated by the time limitation, one student enjoyed the pace:

"I really enjoyed the speed, and the boundaries of the project. Being pushed to look through the lens of collective intelligence was a really interesting approach, even if our final concept didn't reflect it as much as it could have."

Another reflected that a simple introduction to the technology might be enough to stimulate creative exploration leading to valid concepts, and to inspire further work.

"It's a good start and guidance. A superficially understanding is enough for us to inject into this field and aroused my passions to keep exploring."

4.3 How did you feel about the issues and contexts you worked with?

As noted above, students were motivated by a sense of the importance of the issues. Some were unsettled by their scale and gravity and feared being out their depth. They recognized the complexity of the challenge, and that such subjects need to be approached without hubris, but with sensitivity and humility:

"Meaningful but challenging, the experience of designing interventions in these contexts can be very dark at times."

"It certainly gave us motivation, and it felt a lot like this is what [the MA] is all about: designing for these difficult global topics. It pushed me into areas I was interested in but might not have gone to normally. [I] felt very nervous of making missteps, oversimplifying problems, not understanding the space, offending people etc. I am not sure I am qualified to design here."

"There are a lot of stakeholders involved and… other specialists are in better position to help. As designers it was a challenge in the early stage to identify what is an appropriate place for us to intervene."

For one group this influenced their concept direction, and they chose to focus on a consumer-facing tool:

"We had to decide whether to interact with the victims of modern slavery… or pivot to something that was focussed on end-consumers (people/contexts we were familiar with) but would have a net-result of helping reduce slavery… This decision was partially based on a conversation with someone more familiar with [indentured labour], who made us realise how badly we understood the situation."

4.4 How did you get around not being able to work directly with end users?

While drawing heavily on secondary research, many teams also made indirect stakeholder contact "by talking to experts who have worked with the end users before", though for some, time didn't allow.

> "We reached out and spoke with people that did work directly with vulnerable at-risk people - in our case human trafficking victims."
>
> "Having tutorials with guest tutors was useful too as it gave us feedback from different realistic perspectives. But… we had to work with information from second hand research and make assumptions based on what we know in the area of children and mental health issues."
>
> "We tried… but timing and schedule did not allow. Instead, we relied on [public] video interviews with the target group and reports from advocacy organisations."
>
> "We could access YouTube testimonials of protestors in Hong Kong, who were using social media platforms to document their lives and educate their fellows on how to organise and protest. We were also able to leverage some excellent coverage done in the US following the Black Lives Matter protests and the impact of technology on the protests and how police would use tech to harass and impede the protestors."

5 CONCLUSIONS

Despite the limitations of time and depth of exploration, the project demonstrates the value of secondary research and empathic methods, and simplified technical understanding, in generating early-stage concepts. As such, it doesn't claim to lead to robust proofs-of-concept, but instead suggests the creative value of freedom from these requirements. We should not avoid these kinds of issues just because they are technically and ethically challenging. Responding students expressed appreciation for the opportunity to explore such challenges, hinting at the possibility of doing so in future, while remaining mindful of their responsibility, and healthily cautious of the dangers of over-simplification, whether at the user interaction level, or the socio-political system.

ACKNOWLEDGEMENTS

We are grateful to teaching colleagues and guest contributors for their essential contributions: Prof Gareth Loudon (RCA); Prof Yvonne MacDermott-Rees, Professor of Law, Swansea University; Prof Lex Paulson Executive Director at UM6P School of Collective Intelligence; Dr Bjorn Sommer (RCA); Dr Fernando Galdon (RCA); Maria Fernanda Felix de la Luz, UN Development Programme; James Maltby, Save the Children UK; Liz O'Driscoll, Head of Innovation, Civica. Also, to the students of Global Innovation Design MA/MSc for their commitment and enthusiasm during this and the whole programme.

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