

# AI and the conditions of design

*towards a new set of design ideals*

## Author(s)

Giaccardi, Elisa; Speed, Chris ; Redstrom, Johan; Ben Allouch, Somaya; Shklovski, Irina ;  
Smith, Rachel Charlotte

## DOI

[10.21606/drs.2022.1078](https://doi.org/10.21606/drs.2022.1078)

## Publication date

2022

## Document Version

Final published version

## Published in

DRS2022: Bilbao

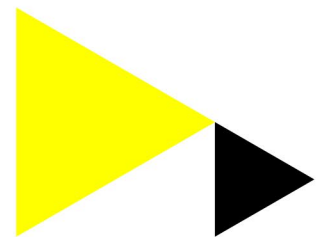
## License

CC BY-NC

[Link to publication](#)

## Citation for published version (APA):

Giaccardi, E., Speed, C., Redstrom, J., Ben Allouch, S., Shklovski, I., &  
Smith, R. C. (Eds.) (2022). AI and the conditions of design: towards a  
new set of design ideals. In D. Lockton, S. Lenzi, P. Hekkert, J.  
Sádaba, & P. Lloyd (Eds.), *DRS2022: Bilbao* (pp. 166-168). Design  
Research Society. <https://doi.org/10.21606/drs.2022.1078>



## General rights

It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

## Disclaimer/Complaints regulations

If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please contact the library: <https://www.amsterdamuas.com/library/contact/questions>, or send a letter to: University Library (Library of the University of Amsterdam and Amsterdam University of Applied Sciences), Secretariat, Singel 425, 1012 WP Amsterdam, The Netherlands. You will be contacted as soon as possible.



PROCEEDINGS OF DRS

ISSN 2398-3132

EDITORS:

DAN LOCKTON  
SARA LENZI  
PAUL HEKKERT  
ARLENE OAK  
JUAN SÁDABA  
PETER LLOYD

DESIGN  
RESEARCH  
SOCIETY

DRS

Bilbao 25<sup>th</sup> June — 3<sup>rd</sup> July

2022

# Proceedings of DRS2022 Bilbao

Design Research Society International Conference

Bilbao, Spain,  
25 June – 1 July 2022

**Editors:**

Dan Lockton

Sara Lenzi

Paul Hekkert

Arlene Oak

Juan Sádaba

Peter Lloyd

## 47 AI and the conditions of design: Towards a new set of design ideals

### Session chairs

Elisa Giaccardi, Johan Redström, Chris Speed

### Editorial

Elisa Giaccardi, Chris Speed, Johan Redström, Somaya Ben Allouch, Irina Shklovski, and Rachel Charlotte Smith

<https://doi.org/10.21606/drs.2022.1078>

### From explanations to shared understandings of AI

Iohanna Nicenboim, Elisa Giaccardi, Johan Redström  
Delft University of Technology, The Netherlands; Umeå Institute of Design, Sweden

A key challenge in the design of AI systems is how to support people in understanding them. We address this challenge by positioning explanations in everyday life, within ongoing relations between people and artificial agents. By reorienting explainability through more-than-human design, we call for a new approach that considers both people and artificial agents as active participants in constructing understandings. To articulate such an approach, we first review the assumptions underpinning the premise of explaining AI. We then conceptualize a shift from explanations to shared understandings, which we characterize as situated, dynamic, and performative. We conclude by proposing two design strategies to support shared understandings, i.e. looking across AI and exposing AI failures. We argue that these strategies can help designers reveal the hidden complexity of AI (e.g., positionality and infrastructures), and thus support people in understanding agents' capabilities and limitations in the context of their own lives.

<https://doi.org/10.21606/drs.2022.773>

## **Mutant in the mirror: queer becomings with AI**

Grace Leonora Turtle  
Delft University of Technology

This paper contributes to scholarly discourse on design and AI by using queerness as a theoretical grounding to explore potentialities for design to interface with and imagine artificial intelligence (AI) differently. The paper does so by reporting on an autotheoretical experiment in which I pose the questions: What if we understood AI as queer, a kind of mutant, in a state of becoming; a dynamic, relational, non-binary gender variant? How then might AI show up in and act on the world (with us humans) differently? The experiment uses a Generative Adversarial Network (GAN) to unsettle how AI is understood today, and to allow for new AI propositions to take root. The work provides a glimpse into forms of design refusal that might illuminate designers to cultural computability and self-determination when designing with AI systems.

<https://doi.org/10.21606/drs.2022.782>

## **Towards a Living Lab for Responsible Applied AI**

Maaïke Harbers, Anja Overdiek  
Rotterdam University of Applied Sciences, The Netherlands

AI ethics research has mainly focused on high-level principles and guidelines, and technical issues. This position paper argues that more attention should go to the practical and contextual aspects of designing AI applications and explores how living labs can contribute to the ethical design, development and deployment of AI. Literature on AI ethics is discussed, and the term 'Responsible Applied AI' (RAAI) is introduced to refer to the ethical application of AI. Five requirements for the development of RAAI in a living lab are distinguished. Subsequently, the paper brings together literature from Open Innovation and Human Computer Interaction to examine the suitability of different types of living labs for developing RAAI. It concludes that Innovation Spaces (online and physical) combined with temporary and ethically governed Instrumented Places and People could be a fruitful environment for a living lab for RAAI. Implications and challenges for further research and practice are discussed.

<https://doi.org/10.21606/drs.2022.422>

## **The Future of Money as a Design Material**

Chris Speed, Jonathan Rankin, Chris Elsdén, John Vines  
University of Edinburgh, United Kingdom

For many years the primary representation of value has been money. However complex we perceive its material, social and symbolic characteristics, money is now undergoing significant change as it becomes data. This paper explores the

implications for design as a series of technological and regulatory shifts are taking place that are changing the representation of money into data. The paper anticipates that it won't be long before personal bank accounts will be better understood to be personal data stores, and monies held within them are connected to data-driven systems to 'pay' for services that we require. By charting the changes that are taking place, and introducing a series of design case studies that make tangible the design opportunities, the paper suggests an emerging design space in which designers should anticipate new forms of money as an entirely new design material.

<https://doi.org/10.21606/drs.2022.785>

## **Metaphors for Designers working with AI**

Dave Murray-Rust, Iohanna Nicenboim, Dan Lockton  
Delft University of Technology, The Netherlands; Eindhoven University of Technology,  
The Netherlands

In this paper, we explore the use of metaphors for people working with artificial intelligence, in particular those that support designers in thinking about the creation of AI systems. Metaphors both illuminate and hide, simplifying and connecting to existing knowledge, centring particular ideas, marginalising others, and shaping fields of practice. The practices of machine learning and artificial intelligence draw heavily on metaphors, whether black boxes, or the idea of learning and training, but at the edges of the field, as design engages with computational practices, it is not always apparent which terms are used metaphorically, and which associations can be safely drawn on. In this paper, we look at some of the ways metaphors are deployed around machine learning and ask about where they might lead us astray. We then develop some qualities of useful metaphors, and finally explore a small collection of helpful metaphors and practices that illuminate different aspects of machine learning in a way that can support design thinking.

<https://doi.org/10.21606/drs.2022.667>