

THE NEW REAL

Towards the Next Generation Intelligent Experiences

We developed a series of transformational experiences combining art and AI to address pressing needs of the creative community as well as illuminate the wider societal engagement with emerging AI technology.

The New Real is delivered in partnership between the University of Edinburgh, and Alan Turing Institute.



THE UNIVERSITY of EDINBURGH
Edinburgh Futures Institute

The
Alan Turing
Institute

See more about the work we do at www.newreal.cc

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OUR VISION AND PURPOSE

Our vision is that The New Real enables the emergence of an enhanced research field for radically intelligent, immersive, fair, and environmentally sound experiences fit for the next generation of globally connected audiences emerging from COVID-19.

Our purpose is to galvanise transformative cross-disciplinary approaches on AI and the arts, that connect AI, data science, social science and humanities research to real-world applications.

Our mission is to devise imaginative ways to experiment with new experiences, practices, infrastructures and business models, and to empower people to be agents of positive change for our communities and our environment.

In The New Real we explore how AI impacts on life at a profound level, often interacting with us in fascinating and unanticipated ways, and illuminates how emerging technology can become a creative, playful and deeply impactful part of everyday living.

We believe art and creativity can help to radically change how we think about AI design, moving beyond the current paradigm of learning patterns from large amounts of data, to embrace human traits such as bias, disagreement, and uncertainty as a signal with creative potential rather than noise that needs to be removed.

OUR GRAND CHALLENGE THEMES

Our research responds to urgent challenges for the arts, science and society identified with our industry partners:

1. Digital Economy

Why this is important? An emerging generation of AI technologies that directly engage humans, combined with a pivot to digital post-Covid, creates opportunities and threats.

Delivered through: We create cutting edge artworks, algorithms, tools and concepts for next generation intelligent experiences.

3. Places

Why this is important? Following Covid-19 we need to rebuild communities, and renew the connections between people and places, locally and globally.

Delivered through: We connect the latest research in AI and Arts to places and communities through festivals in Edinburgh and internationally.

2. Climate & Environment

Why this is important? There is an urgent need to tackle both energy intensive technologies and the disconnect between global climate information and people's daily lives.

Delivered through: We demonstrate imaginative ways to connect global information to audiences' daily lives, and test low energy methods.

4. AI Ethics

Why this is important? Recent advances in machine learning are based on techniques that can amplify harmful bias and injustice, new fair and inclusive paradigms are needed.

Delivered through: We shift the debate by challenging harmful bias and showcasing positive alternatives through interactive art.

We devise imaginative research questions and enquiries that address these urgent challenges, such as:

How can we create delightful, transformative artistic experiences that are transparent, fair and environmentally sustainable, blending art and AI in a profound way, and co-created by humans and machines, rather than instrumentally employing AI and its hidden human labour?

OUR DESIGN FRAMEWORK - OPEN PROTOTYPING

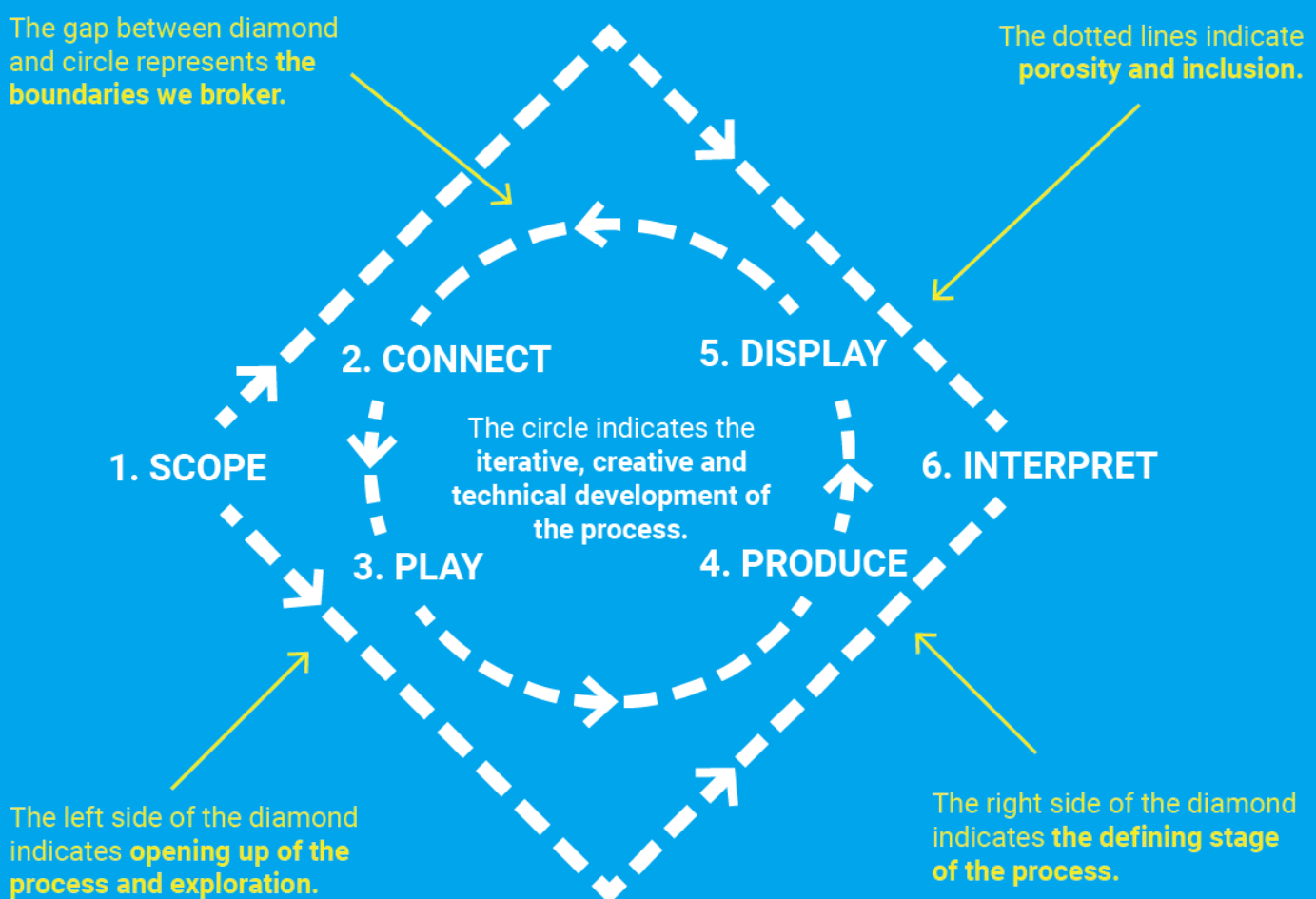
Open Prototyping is an approach and a process to imagine, navigate and shape collaborative research and development projects. It offers a way to broker between different disciplines, and to connect to audiences in the real world.

This design framework facilitates the scoping of future concepts, programme development proposals, interdisciplinary partnerships for Next Generation Intelligent Experiences.

By bringing together creative and technical exploration and experimentation, it helps to derive new insights, knowledge, and practices for the future of art, technology and society.

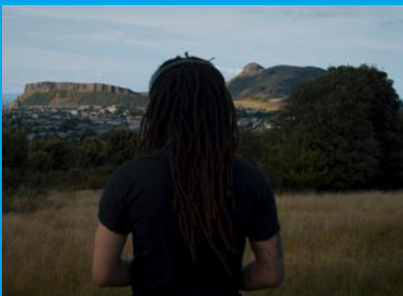
Through a simplified six step pathway, Open Prototyping enables creative producers or cross-disciplinary teams to design, structure and evaluate co-creation processes.

Open Prototyping process diagram:



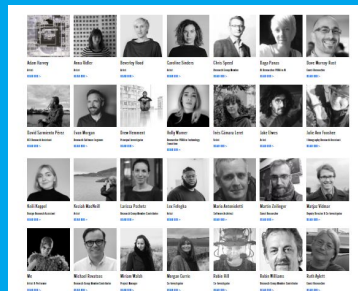
OUR ENGAGING, IMPACTFUL APPROACH

We have a distinctive approach we call Open Prototyping, that we apply in the real world to generate impact for society. Based around high quality engagement for our stakeholders, we deliver imaginative forms of engagement, and access to digitally connected audiences.



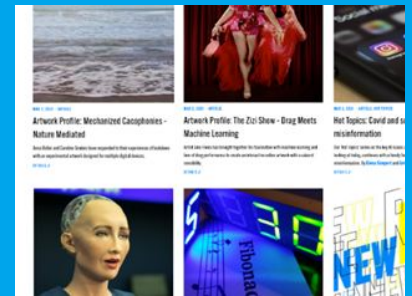
EXPERIENCES

Our team has presented 3,000 experiences to 422,000 people from all over the world.



COMMUNITY

Our network has 75 industry, academic and policy partners and our team has 35 members.



ONLINE HUB

Our online collaboration hub presents discussions, articles, tools and research reports.

This results in a portfolio of outputs such as artworks, policy, data, infrastructure, products and services. We create an interface to a wide and relevant audience, and provide a unique delivery platform for ideas and experiences.



EVENTS

Design workshops, community events, art exhibitions, industry showcases for stakeholders.



FESTIVALS

Large-scale experiences on the stage of the world's foremost festivals, from Edinburgh to Linz.



PUBLICATIONS

We develop breakthrough ideas on the next step change for the arts, science, society.

OUR CASE STUDIES OF CO-CREATION I

How can AI fuel astonishing works, products and services for audiences during lockdown, that also debunk common misrepresentations of AI?

The experience: We presented Jake Elwes' The Zizi Show at Edinburgh International Festival 2021 as a fully digital experience, empowering queer and drag communities by disrupting datasets, increasing representation and giving back control by providing a new performative tool. The Zizi Show received Honorary Mention at Prix Ars Electronica (2022) and is exhibited at V&A London (2023-24).



Fig. 1 The Zizi Show created by Jake Elwes for The New Real.
Image credit: Jake Elwes

How can interactive art overcome the disconnect between global climate information and local, lived experience?

The experience: Delivered during the COP26 UN Climate Change Conference, a deeply personal encounter for a global audience with climate phenomena beyond human scale. Working with Edinburgh Science Festival, The New Real identified a business model where festivals operate as platforms for climate engagement and action.

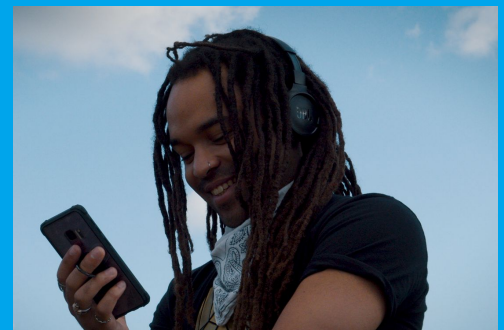


Fig. 2 AWEN - A Walk Encountering Nature created by Inés Cámara Leret et al. for The New Real.
Image credit: Ciara Flint

How can AI be made more easily usable in tools and systems for the creative sector, to connect science and data to applications and impacts in the real world?

The experience: Engaging with Towards Turing 2.0 programme at the Alan Turing Institute, the prototype The New Real Observatory platform was developed as an open Experiential AI system, combining climate modelling data with AI processing engines. The platform was co-shaped by a diverse group of international artists to create pilot experiences.



Fig. 3 The New Real data scientist, Dr Daga Panas, presenting The New Real Observatory Platform at the Scottish AI Summit.
Image credit: Chris Scott

OUR CASE STUDIES OF CO-CREATION II

How can AI be made tangible and legible to audiences, whilst connecting with them on a profound level beyond scientific explanation?

The experience: Working with The New Real Observatory, Inés Cámara Leret developed *Overlay* - a hybrid multi-dimensional artwork, highlighting artificiality in experiences and perceptions of colour. The work premiered at the Edinburgh Science Festival 2022 and was subsequently show at Ars Electronica 2022.



Fig. 4 Screening of *Overlay* by Inés Cámara Leret at the Edinburgh Science Festival 2022.
Image credit: Erika Stevenson

How research and art combine in sense-making around critical issues of emerging technology, such as generative AI?

The experience: The New Real Pavillion at the world-leading Ars Electronica festival (2022) featured three commissioned artworks, based on The New Real Observatory platform. The works challenged the notions of AI as mediator, creator and essence of “nature”, spanning topics of perspectives, embodiment and agency. Audience interaction and responses were explored with our Pop-up Research Hub, where we discussed learning arising from engaging with the works.



Fig. 5 The New Real Pavillion at Ars Electronica 2022 festival.
Image credit: DiePhotoFrau

How do we design transformative cultural experiences around AI and other emerging technologies, engaging diverse stakeholders?

The experience: Developing the collaborative works and analysing the process led to an iteration of the Open Prototyping Toolkit - an open source design model and process. Launched at the Edinburgh International Culture Summit (2022), the toolkit can empower creative producers, artists, researchers and cultural organisations in shaping and delivering ambitious cross-disciplinary programmes.



Fig.6 Open Prototyping canvas at the launch event at Edinburgh International Culture Summit 2022.
Image Credit: Miriam Walsh.

OUR CASE STUDIES OF CO-CREATION III

How do we facilitate a locally-grounded discussion around ethical, economic, environmental and political impact of within and beyond creative communities of practice?

The experience: In Autumn 2022, The New Real launched its bi-annual Salons, in partnership with the Edinburgh Futures Institute. The Salons are mini “future festivals”, where global state-of-the-art thinking meets local communities of practice in panel events, interviews, showcases, demos, workshops, performances, and more.



Fig. 7 Creative practitioners’ panel at Autumn 2022 New Real Salon. Image credit: Andrew Perry

How AI art help shape and inform the AI industry?

The experience: We partnered with the Scottish AI Alliance, an industry-policy network and forum, to develop interventions to translate the multi-dimensional expertise and concerns between research and development outputs and professional audiences. Through a co-commission, comprising outline proposals, five funded development awards and the main artwork grant, we created a wealth of material on the topic of “Uncanny Machines”, provoking industry and audience reflection on AI development.



Fig. 8 Headline images from the commissioned development awards.

Image credits: Kasia Molga (top left); Alice Bucknell (top right); Sarah Ciston (bottom)

How can we support creative community and cultural organisations in navigating the emergent AI technology?

The experience: Communicating the insights from our research and the practitioners’ views and experiences, The New Real Magazine Edition One synthesise a roadmap to the generative AI landscape, critically reflecting on precedence of AI / New Media Arts in framing some of the most prescient contemporary challenges - a synthetic future foretold.



Fig. 9 Cover page of Edition One of The New Real Magazine reflecting on generative AI and arts before and through the launch of big public platforms.

FUTURE OPPORTUNITIES

Talk to us:
newreal@ed.ac.uk
@newrealcc

We invite you to work with us to shape this transformational R&D agenda, and enable new sustainable models of impactful collaboration between academia, industry, policy and the public to help address urgent global challenges.

There is an opportunity to:

- Support arts commissions
- Support technology development
- Engage our experts as consultants for your own projects
- Collaborate on cutting edge research with us
- Collaborate with The New Real at upcoming events and festivals
- Adopt our technology in your own products and services
- Partner with us in longer term strategic work on policy and practice

(Details on request)

Together we can mobilise The New Real platform to shape the Next Generation of Intelligent Experiences.

Resilience in the New Real is funded by the Arts and Humanities Research Council, and **The New Real Observatory** is funded by Turing 2.0/Engineering and Physical Sciences Research Council.

Our current programme partners and funders:

