The Predictive Materialities (PredMat) workshop introduced designers to the potentials of working with data technologies and prepared them for a future in which algorithms will become partners in their design studio. The workshop was articulated in a series of three events where professional designers and design researchers engaged with contemporary, data-driven technologies, including Machine Learning and Blockchain databases, and speculated on the implications of such technologies for their own creative practices and the design industry at large.

EXPERIMENTAL TOOLS

PREDMAT

Moving past the use of Machine Learning (ML) for logistics or optimisation purposes is often considered economically risky. However, using ML to bridge industries that are not yet oriented to service or to open up unexpected design spaces across different sectors of an economy is what data-driven technologies can do.

PredMat anticipates a scenario of small scale, distributed manufacturing in which, instead of software notifications, people receive material artefacts that anticipate their daily needs. Participants are anonymously paired and asked to play the algorithm. They must look at the data available within each other's social media sources, identify patterns, create hypotheses and then design 3D printable solutions that could actually be made and shipped to the other participants in anticipation of their needs. After living with the 3D-printed artefact for some time, participants are then asked to reflect on the usefulness and significance of the data used and the algorithmic hypotheses made.

BLOCK EXCHANGE

Inviting people who do not work with Financial Technologies (FinTech) to understand the principles of the Blockchain is not easy, with innovation across the technology largely restricted to mathematicians and Bitcoin gurus.

»The integral use of data, algorithms, and digital technologies like Blockchain in design practice can play a major role in developing the circular solutions of the future.«

Gaspard Bos

Block Exchange anticipates a speculative scenario of peer-to-peer trading of value where anything goes (not just money). The tool uses resource cards representing material assets (slips of paper with symbols representing wheat, sheep, oil, wood, etc.) to support trading practices across several phases. During each phase, participants exchange LEGO bricks for material assets and then write down the transaction on a shared ledger in the form of a LEGO brick, which will eventually form a block within a chain. In doing so, participants begin to think through how representations of value can change once you remove the habitual concept of money.

WHAT HAPPENED?

PREDICTIVE ARTEFACTS

As an outcome to PredMat, participants created a series of 3D-printed artefacts, which were meant to be predictions of what someone might need in the near future (as inferred by social media sources). Designers took different routes in the way they 'walked the code' of the algorithm. Some allowed the data to dictate in a way what the object should be (mostly working on correlations), while others tried to input their own decisions as designers (mostly working on insights). Some focussed on finding a problem for which a solution may be needed (that's when correlations seemed to be the most useful), while others looked for something 'missing' from one's life (that's when the designer's sensitivity played a more important role than correlations).

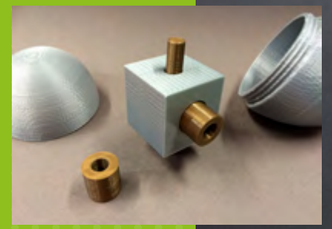
The Egg is an example for something designed by querying data in search for a meaningful insight. The designer related his own childhood experience to another particpant's Facebook data and then decided to create something highly ambiguous and playful: an egg that can be taken apart and reassembled. Similarly, the Path Maker was designed by confronting what was previously known by the designer about a participant (as a professional with his own public image) and his social media sharing habits and history. Alternatively, the Panorama Viewer is an example of something that was downloaded from an existing library as something that the designer thought could have been appreciated and was chosen simply on the basis of a clever analysis of Facebook data (which showed a participant's preference for panoramic pictures).

DESIGNERS' BLOCKCHAINS

Following the Block Exchange, team ABC demonstrated that there is a space in the market for a design consultancy that can articulate the benefits of Distributed Ledger Technology to their clients. Some possible contracts included: makers who want to leave Etsy and adopt a ledger to record the expiry of their design files, celebrities who want to track the use of personal photographs, and local governments wanting to guarantee the safety of public voting. Team EduCoin presented a cryptocurrency exchanged through the delivery, reception, and outcomes of learning, with teachers becoming shareholders in the success of their best students. And team LifeCoin offered a community service that allows skills to be traded across local residents in order to increase social capital. LifeCoin is an assemblage of technologies proposing a hammer that can trade its owner's skills with other tools or users via smart contracting.

KASH CUP

In the near future, every 'thing' in the Internet of Things will become a form of currency. Powered by FinTech bots that identify and broker trading opportunities, things will use smart contracts to prevent social and economic value from escaping a community. The KASH cup is the first manifestation of this near future. Designed by Scottish ceramic artist Katy West in collaboration with the Centre for Design Informatics and designer Teun Verkerk, the KASH cup is a limited edition of coffee cup (only 100 produced) that operates as a pop-up digital currency.



PREDICTIVE ARTEFACTS:
PATH MAKER (TOP, BY DRIES DE ROECK)
AND THE EGG (BELOW, BY ISKANDER SMIT)

KASH CUP

BLOCKCHAIN: LEDGER

BLOCKCHAIN: TRADING

WHAT DID WE LEARN?

Designers need to exercise and practice the principles of a technology before they can actually design with it. To this end, we used experimental tools that helped participants explore design from an algorithmic perspective, where data moves from being something resembling a source to design ‘from’ to a condition in which design could be produced ‘by’ data itself. By exploring the shift in practice that designers may begin to develop, our tools helped participants understand the performativity of data as design material – a material that can anticipate, predict, and push in ways that require a more nuanced consideration of the contextual significance and situated value of the data used in the casting of algorithms.

»If data is the new oil, what’s the motor?«

Marcel Schouwenaar

With PredMat, designers explored how to inquire into a database in search of patterns and insights. 3D-printed and received by mail with no identification of the sender, our predictive artefacts stirred discussions on Machine Learning opportunities and limitations, possible design processes, and consumer value. Turned into algorithmic designers, participants were able to compress all histories and futures, and produce ‘things’ far beyond human memory. However, simplistic algorithms were deemed clever in producing short-lived gadgets but not in identifying products and service capable of generating value in the long term.

»Efficiency is great, but you still need a mental switch to make use of it so the ecology part also benefits.«

Anner Tiete

With Block Exchange, designers began to understand the scale of distributed relationships and trusted networks, and let of go of representations of value such as money. As they set aside material exchanges, designers were able to explore novel design spaces and experiment with value-based solutions. As a collection of responses following the Block Exchange workshop, designers demonstrated their ability to reshape commercial and social economies through a critical engagement with the technology and its characteristics.

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KEY INSIGHTS

Designers need to exercise and **practise the principles of a technology** before they can actually design with it.

Data is a design material that can anticipate, predict, and push in ways that require **nuanced consideration of the contextual significance** and situated value of the data used.

The key is not to collect lots of data but to **learn how to use it** to ask interesting questions.

Things2Things

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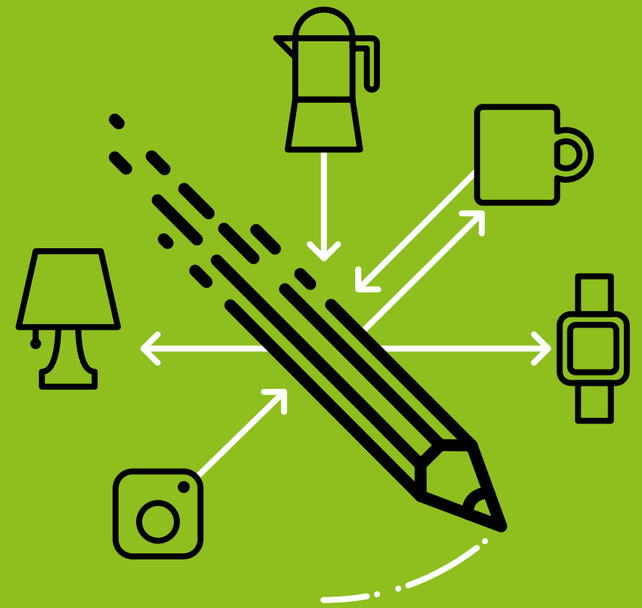
CONNECTED EVERYDAY LAB

DESIGN UNITED



PREDICTIVE MATERIALITIES

CASTING ALGORITHMS IN THE DESIGN STUDIO