AI & DESIGN
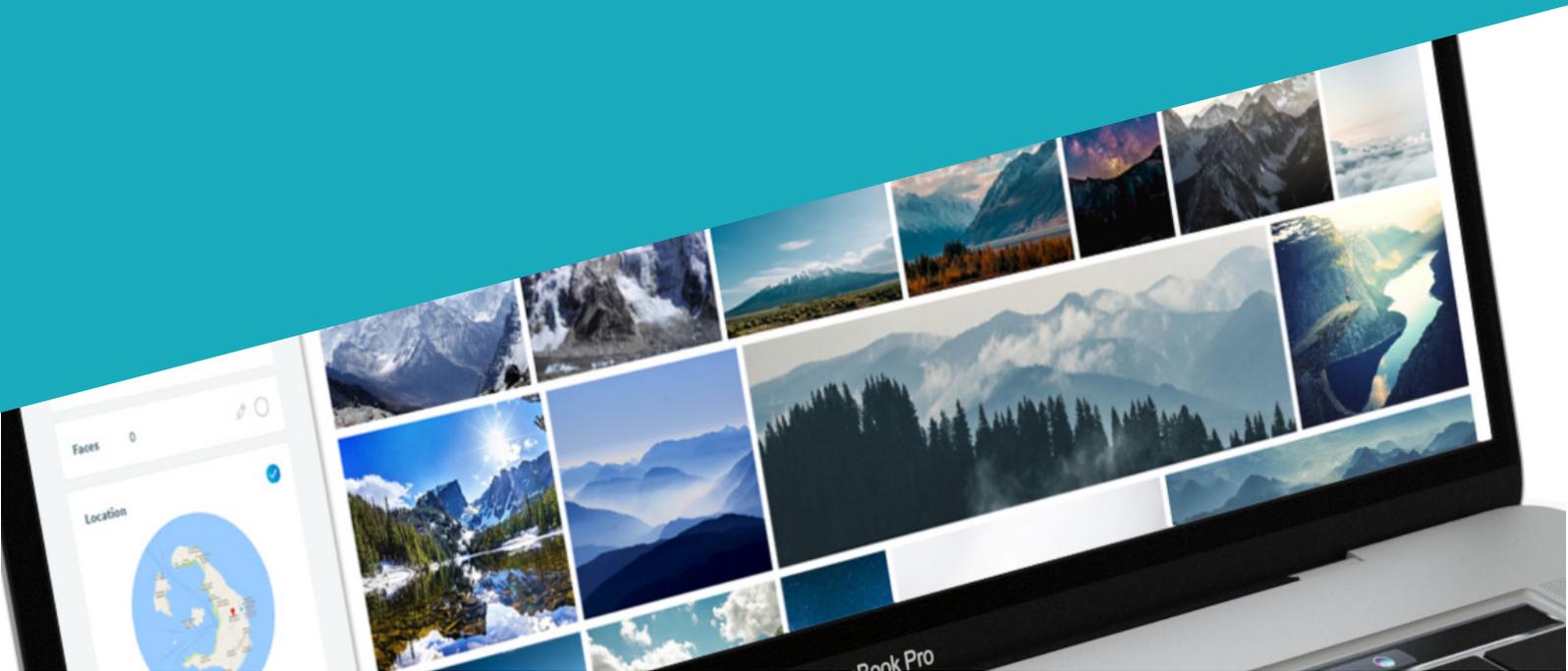
Behaviour-led image search platform for improved police investigations

Design in innovation insight series: Qumodo

Working
EARLY STAGE

+

Working
HUMAN-CENTRED

=

Benefit
MANAGE RISK

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"We are using psychological insight to inform our use of AI. Part of design always involves psychology, they are intertwined. However, with three psychologists on our team we are working at a deeper level of scientific research, investigating human perception and behavioural studies. We're designing things based on science, not just opinion. The Qumodo image search engine (Qumodo Discover) combines the best of machine learning and human perception to help police officers and analysts find the evidence they need for their investigations."

Sophie Hart, Designer, Qumodo

QUMODO
Advancing human & AI interaction

As a former police detective, Ben Gancz's experience of using clunky technology in law enforcement left him feeling there was a better way. With the help of the Design Foundations funding Gancz's company Qumodo has now developed an image search platform specifically for police investigations which, he believes, is not only easy and intuitive to use, but also reduces psychological distress for detectives working on sensitive cases such as child protection. Qumodo marries psychology, AI, and human-centred design, to optimise collaboration between humans and machines.

Early stage - discovering strengths

According to Gancz the Qumodo image search app "augments the human user's abilities, through human and machine collaboration, to scale a team's ability to investigate crime." He explains How Qumodo psychologists are specifically researching what skills humans are better at and what skills machines are better at, in order to develop more effective AI. They celebrate the skills of each to optimise collaboration between them. Machines, Gancz says, are: better at high volume search and information recall, they don't suffer psychological distress, they don't get tired, their performance doesn't change over time, and they don't lose focus. Humans, on the other hand, are: better at context, a wider understanding of the world, differentiation and understanding what might happen next.

The importance of understanding these differences lies in being able to reduce both cognitive load for the investigators, and the psychological impact of viewing traumatic images, through better design and the use of Artificial Intelligence. "Qumodo Discover uses AI to do the heavy lifting, while human users use their understanding of the world and detective abilities to find and link clues."

Human-centred - the user expereince

Research can also help build comprehensive user journeys to inform the design process. Through a wide variety of interviews the Qumodo team gathered data about user needs for the image search app. Gancz asserts, "We went from users not knowing we existed, to having people who are now advocates of our business, which is a huge advantage." The more people they spoke to, the better they understood how their new technology would be used.

Considering what type of user you have in front of you is vital, says Gancz. "For example, early adopters are really important because those with less tech knowledge will follow them, but they are, perhaps, less discerning about aesthetics as they've already bought into the technology. Providing a great user experience for all your users at every opportunity is vitally important to the success of your product."

Design in innovation

Thanks to increased awareness about the benefits of human-centred design, more businesses want to bring designers on board in the early stages of innovation. Too often, however, companies struggle with finding or justifying the budget required for such a collaboration. Through the Innovate UK Design Foundations programme in 2017 £4 million of funding was awarded to 93 businesses of varying sizes. The objective was helping businesses work with designers to identify innovation opportunities and find viable routes to market. This insight series selects several of those projects to highlight a variety of design approaches.

This project managed risk through:

→ *Deeper period of research*

→ *Iterative prototypes*

→ *Great user experience*

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