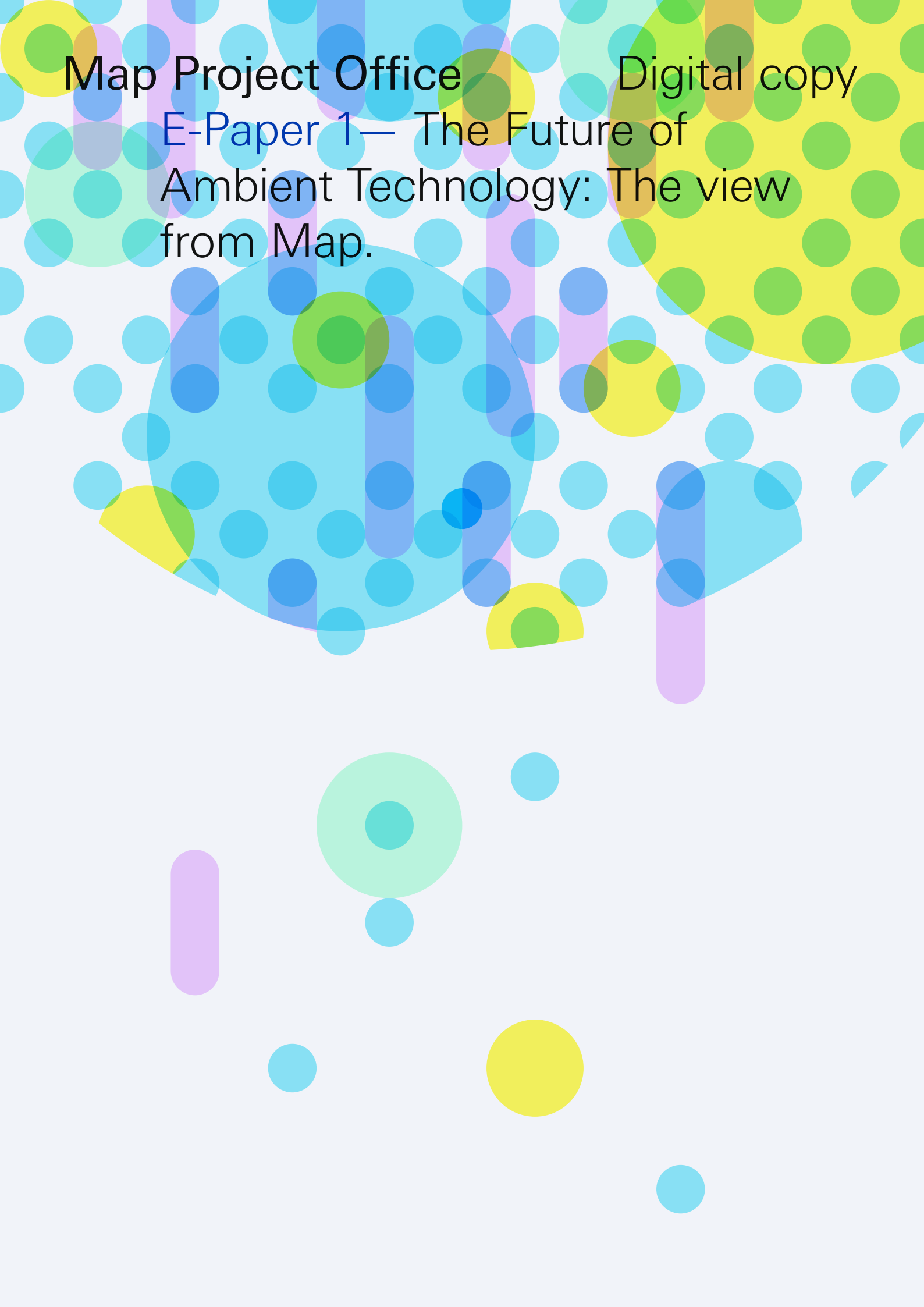


Map Project Office

Digital copy

E-Paper 1— The Future of
Ambient Technology: The view
from Map.



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Introduction ¹

→ Every day, our homes become a little bit smarter. The rise of ambient technology, with its promises of smart devices, gadgets that talk to each other, and to us, seems inexorable. But where, exactly, will that lead and is it going in the right direction? Jamie Cobb, Matthew Cockerill and Chris Weightman, industrial designers from Map, share insights on the future of ambient tech in the home, from current issues and new behaviours to insights on the next wave of at-home devices and technologies.

When you say ambient tech, people often think of products such as smart light bulbs and speakers. In reality this term is anchored



Introduction ¹

around a broader set of thinking, looking at how an environment is sensitive and responsive to someone's presence. It is about connectivity and communication - ambient tech brings the outside world into your home in new ways, where information isn't being channelled solely through your smartphone but rather a series of devices. When designed well, it can improve our lives, enhancing the way in which we consume information and allowing us to behave as we would normally and go about our day.

The success of ambient tech lies in the ability of a device to sit naturally within our homes, rather than us having to modify or change our behaviours to engage with a device.

E-Paper 1—

Ambient technology and the screen ²

Computer scientist Mark Weiser coined the term ubiquitous computing in 1988, over 30 years ago: “The most profound technologies are those that disappear, they will weave themselves into the fabric of everyday life until they are indistinguishable from it.” In other words predicting the merging together of our physical analogue world with the digital world. The development of ambient technology has not had the luxury of being developed from the ground up with its own vocabulary, instead being conceived as a medium to replicate what happens on a screen. But the amount of information you get on a screen isn't congruent with ambient computing. What happens generally when the technology comes along to move beyond screens is people ask how would our screen-based experience play out in the ambient space? For example, they might ask how they control music with their voice, taking an existing idea and making it become ambient. Looking beyond this, Map is focussed on the new behaviours that this technology will enable rather than how it can support already existing needs. The obvious thing would be extrapolating out →

E-Paper 1—

Ambient technology and the screen ²

the dots of the straight line of the experience, but to ask whether this unlocks totally new behaviours in the home is a more interesting question.

“Ambient tech shouldn’t just be replicating what’s happening on the screen, as that’s a battle where the screen is always going to win...”

Screens are sometimes thought of as not being human, while ambient tech tends to be seen as more empathetic because it is controlled by gestures or behaviours. In fact, a screen is a very human thing in the way that we gesturally input onto it. Ambient tech shouldn’t just be replicating what’s happening on the screen, as that’s a battle where the screen is always going to win thanks to it being the most efficient and the richness it has as a medium.

Our approach is therefore not to replace the screen, a tablet for example is a really beautiful way to interact with that technology. In addition to this, there are simpler lo-fi things that can help →

E-Paper 1—

Ambient technology and the screen²

us to achieve a balanced relationship with technology and that can live alongside this existing archetype. With a screen, you lean forward, are immersed and focussed on the task at hand. Lean back experiences allow us to facilitate doing other things whilst getting information, we are not wholly reliant on that singular transfer of information and can instead have a more nuanced information exchange. We can 'lean-back' with the right ambient tech, giving people more choice about the way they communicate and stay connected, picking the appropriate tool at hand for our data consumption.

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Tools for data from everyday living³

Early home technology often put screens where none had been before, also seeking to combine it with familiar home electronics. The connected fridge is an easy example, though a designer will tell you that replacing a fridge covered with magnets, kids' drawings and notes with a built-in screen merely removes the humanity of it - highlighting how existing archetypes are not always the answer.

How can we move and live naturally around technology? What does a family of devices that complement each other and live harmoniously within the same space look like? These are tools for data from everyday living, the screen forming one part of this but beyond that, other inputs and outputs, multi-channels of information that make storytelling simpler for the user.

E-Paper 1—

Tech that allows us to be human⁴

If these technologies are going to ‘disappear’ are they disappearing into archetypes that already exist or are they living in standalone products? As an industrial design agency, Map believes in the transformative potential of physical design first and foremost, the future of ambient technology for us lies in the design of the object.

Tech that is not designed well becomes a barrier to what you are trying to achieve. Adjusting your behaviour to complete tasks. When something is designed well it can seemingly disappear as you are able to behave naturally, an example being the Facebook Portal which allows people to continue with their usual tasks as they would usually whilst interacting with it. Portal has computer vision to keep the user centre-screen even as you move around.

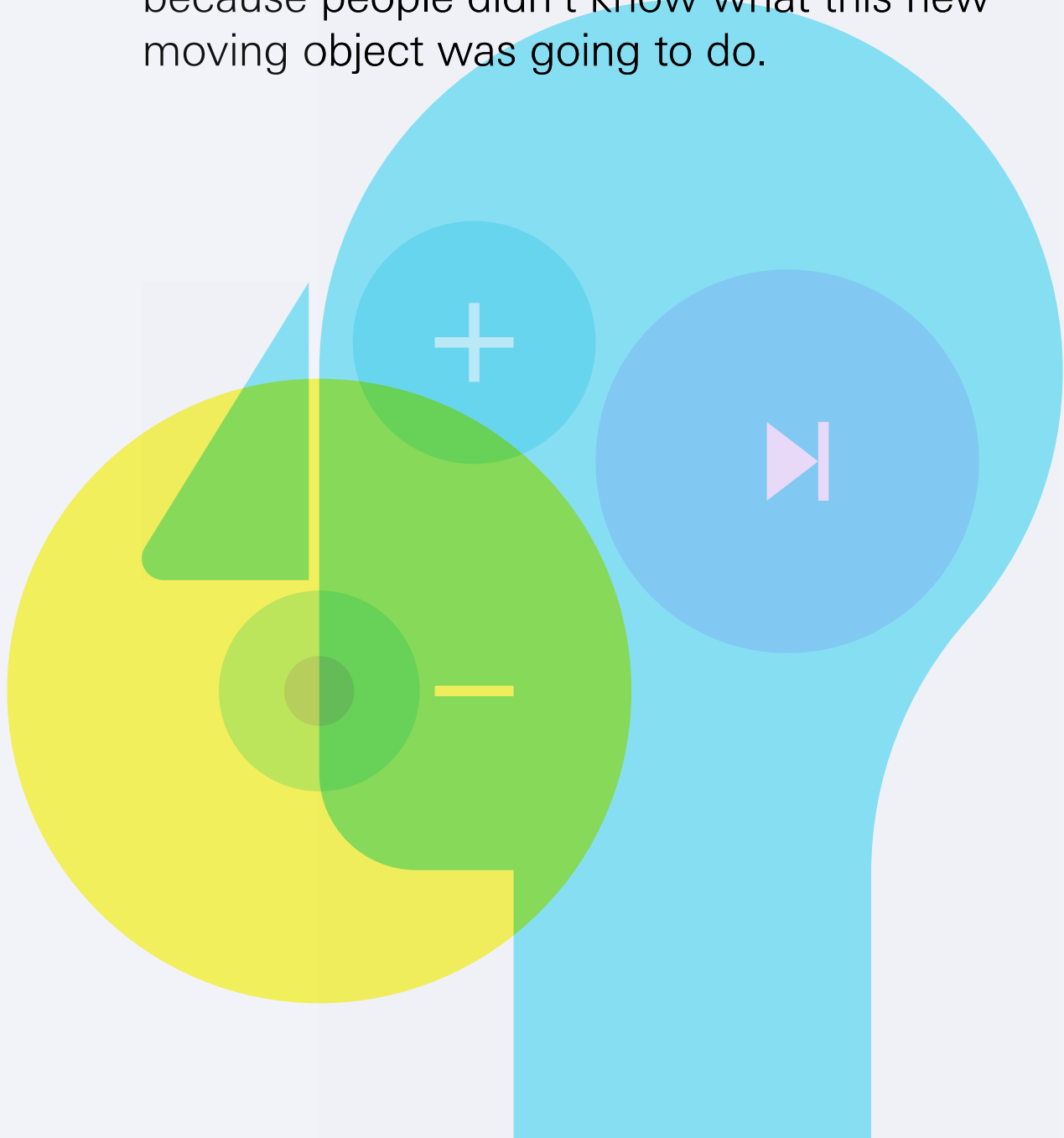
“What that’s about is enabling you to connect with another person. Human connectivity, that’s the thing that you really want. This style of tech requires a leap of trust.” For instance, smart speakers don’t need volume or track-skipping buttons, it can do all that from the voice, but designers are still building those buttons in.



E-Paper 1—

Tech that allows
us to be human ⁴

In part this is due to the legacy of previous products, that we want buttons, still, because that's what we're familiar with. But these are transitory things. You could compare it to the red flag being waved in front of the first automobiles, because people didn't know what this new moving object was going to do.



Digital wellbeing ⁵

Digital wellbeing is of course a priority when developing such products. Well designed ambient tech can improve this, helping to reduce distractions and when coupled with AI, enabling technology to behave in a more thoughtful and considerate way.

‘Digital detoxes’ and other moves away from tech and an avalanche of data are spurred on by our constant connectivity and often screen-based experiences. Our mobile phones are our primary source of information in most cases. Is this really the most appropriate device for us at home? It's designed for the individual without spatial or environmental considerations, and was not conceived originally as a hive of information. We can design ambient items which are much more useful and help you to have a more balanced relationship with technology when at home.

AI/Machine Learning ⁶

The problem with your home space becoming more enabled with ambient technology is that this is a shared space, bringing the functionality of your mobile phone to life in this environment needs to be managed which is where AI can play a role. If we are proposing a future where lots of smaller devices are located throughout our homes and rooms then they need to be smart enough to understand when there is one person at home alone versus when a whole family is at home, or multiple people. Devices will need to understand when it is the right time to notify you of something, whether it is an appropriate time to not. The technology needs to start behaving more like any other person would.

Map has an intriguing take on how things might change, in a way that mirrors etiquette and good manners. “When you walk into a room and there's someone there, you make eye contact and acknowledge each other. Now, if a device has a camera on, it could acknowledge you to let you know it is there, so you understand that this thing is watching you or has intelligence. We can use the analogy of the butler. You want the



AI/Machine Learning⁶

technology to act appropriately, to be quietly confident, to always be there but not intrusive. Ultimately, with the emergence of machine learning we can build in algorithms that understand behaviours, then the systems can be more perceptive, more intelligent and more personal. That's key: now the interactions are quite broad and general but one day they'll be much more relevant and intuitive to what you need."



New Archetypes ⁷

“We think there's an argument for actually making things obvious again and not blending them in...”

Industrial design has played a part in how these things have changed, too. Technology is often about things getting smaller and disappearing, which for a time became part of the designer's focus: “Our job really was to reduce the visual bulk of big things like the first radios and TVs. In a way most technology is now so small you don't see it. We think there's an argument for actually making things obvious again and not blending them in so people know how wired that home is. When I go into somebody's home, how do I know how sensitive and responsive or intelligent it is? How about making some physical elements in the room to make things clear?”

Trust works in a different way, too. A smart speaker with a camera could be seen as just too intrusive or worrying for a user but Map has explored other technologies, such as a LiDAR scanner. It can still detect the presence of a person but as a series of data points which



New Archetypes⁷

can be anonymised and can't be reconstructed into an exact picture. Still, these are radically different for our current home environments and so part of the role of designers is to take people on a journey and address these key 'threats and fears'. Some devices with cameras now come with a simple physical switch to slide across and this can be enough for many people's peace of mind.

E-Paper 1—

Conclusion:

Map Approach⁸

So, where does that leave a company like Map? As Weisner reflected, tech is at its most profound when it disappears. Looking now at how this foresight has come to fruition, what is clear is that tech has inextricably woven itself into everyday life and there is a need for it to metaphorically, rather than literally, disappear. Encouraging natural behaviours and engagement is imperative in the success of ambient tech and so for Map the future holds a new vernacular, we feel strongly in the place of the affordance of the design to be communicated through physical form versus software.

“We need a new archetype. The visual side of things is very important, but I think it’s about creating multiple elements of the new, not trading on the past. As designers we can take inspiration from the human relationship to mediate our technology. We think some of that technology should now be expressed to help people communicate so they know what they're dealing with. We're interested in new behaviours, not optimising watching movies, not doing my work email quicker in the home without a screen. →

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Conclusion:

Map Approach⁸

And, though technology can make things disappear, maybe it's time for that to stop, that things should be distinguishable, to help people understand them, rather than being invisible in the ether.

We receive a huge amount of our day-to-day information from our devices, the need for new archetypes also lies in diversifying our modes of information consumption. Moving away from singular outputs and giving us the choice.

For us, it is rooted in affordances, in the way products function through the software but also through their physical form. When digital radio first started, there was an affordance to the design, related to how radios used to be made. A radio doesn't need to take that shape, but that's how they were when they first appeared. As a new technology emerges, how do we create new archetypes? Do we just keep using the old artefacts and make them high-tech or do we create a new palette to work with? For us the latter is the future of ambient technology for the home - new product archetypes for new behaviours. ■

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Map Project Office

19—19

3rd Floor

1 St John's Lane

London EC1M 4BL

+44 (0)20 3376 5931

Press contact—

→ Dharine Surenthiran

→ dharine@mapprojectoffice.com

mapprojectoffice.com

[@mapprojecto](https://www.instagram.com/mapprojecto)