

TECHNOLOGY

There's Hope for the Metaverse – Just Not the Metaverse We Thought

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How do we digitally represent an online multi-sensory, social event.

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A (Virtual) Reality Check

The concept of a “metaverse” has been the subject of excitement for several decades, even if the actual term “metaverse” is relatively new. Business leaders, system designers, gamers, and even science fiction writers have imagined a world where we combine the best parts of our physical and digital worlds. The imagined result is a place where we can interact with virtual people and objects naturally, where we can bypass the physical constraints of time and space, and where we can construct dynamic, hyper-connected, scale-defying social spaces at a fraction of the cost.

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The growing sophistication of virtual reality (VR) technologies has made this fantastical vision not only possible, but seemingly feasible in the near term. In the resulting “gold rush” to the metaverse, many large technology companies have made substantial investments in VR. After acquiring Oculus VR in 2014, Facebook changed its name to “Meta” in 2021, to reflect a growing focus on the metaverse. In January 2022, Microsoft announced that it intended to acquire Activision Blizzard, creator of some of the most advanced immersive and dynamic gaming interfaces, in a move that has widely been interpreted as an effort to acquire metaverse-relevant development capabilities.

Meanwhile, Google has invested in projects such as Earth VR, YouTube VR, and Tilt Brush. Samsung launched Gear VR to integrate Samsung smartphones directly into VR headsets. At the same time, research has piled up to illustrate the usefulness of VR for areas such as virtual meetings, public speeches, training, education, healthcare, entertainment, travel, and retail.

For all the hype about the metaverse, however, the tide of public opinion has recently turned. Pandemic experience with remote work, and accompanying difficulties such as “Zoom fatigue,” have caused many to realize there’s a limit to how much virtual meeting, shopping, etc. they want to do. As Apple CEO Tim Cook explained, “[VR]...can be used in a good way. But I don’t think you want to live your whole life that way. VR is for set periods, but not a way to communicate well.” This metaverse reality check has had commercial consequences. In 2022, Meta reported that its VR and AR department suffered a net loss of \$10 billion for 2021, which was followed by the company’s first quarterly drop in revenue in 2022 and a 13% cut in its workforce. Microsoft has disbanded project teams working on the HoloLens, AltSpaceVR, and MRTK. Several high-profile virtual reality events have received mixed reviews, including Decentraland’s high profile Metaverse Fashion Week. Despite the advancing capabilities of virtual reality technologies, organizations and markets seem to have lost some optimism about the metaverse.

We are emerging from this cycle of inflated expectations and disillusionment, however, into a better and more productive place, where a metaverse can be thought of as a practical solution to a specific challenge. We observed this when we participated in a project to build a digital platform to help Danish design and fashion businesses get through the Covid-19 pandemic. The “Virtual Stage” project, launched in June 2020, in Copenhagen, Denmark.

Danish design products have become popular around the world, especially furniture and clothing. These design products typically emphasize the quality of materials, their relationship to surrounding contexts, as well as functional innovations. Often they build on the ideas laid out by seminal designers and thought leaders, such as Hans Wegner and Finn Juhl, not only in the style of their design but also in the narratives they use to construct and maintain markets. The result is a collection of design products that often command premium prices, based on perceptions of the quality of the design and a subjective sense that the product is something special.

When the pandemic began in early 2020, though, it posed major challenges for the way the Danish design industry has historically functioned. Stores were closed, which forced brands to sell online, meaning physical demonstrations and sales experiences were impossible. Showcase events for new products were cancelled. Sales staff representing design brands were unable to meet physically, as they had done, with retailers, agents,

architects, interior designers, journalists, influencers, and other participants in design processes. Collectively, these changes were especially harmful to the careful staging of encounters with new products needed to convey a sense of specialness that justifies their high prices.

Physical gatherings were how brands and retailers had come together to evaluate this sense of specialness of new designs. The physicality of these showcases allowed the touching, handling, and close inspection that helps communicate engineering, manufacturing, or material quality of a product. Physical showcases also allowed for shared social experiences that influence individual and collective perceptions, which helps retail buyers decide which products they think will seem special and therefore sell to end consumers. Participants in these events created a “temple of fashion” in which brands and retailers could co-create the all-important sales narratives that would make these products feel special enough to justify their prices.

Unable to meet physically, principals within the industry banded together with the intention of creating a virtual substitute for showcase experiences. Their first reflex was to use the digital technologies that most closely reproduced the physical showcases, i.e., an immersive virtual metaverse which could imitate the layout and dynamics of the physical event, and possibly layer additional digital information on top. We used a design science approach to research the design and effectiveness of these virtual experiences, joining a project team composed of researchers, representatives from industry associations and companies, and a dedicated technology provider. Ten companies participated, seven furniture brands and three fashion brands, providing us with ten distinct but related cases to examine. They included a mix of known and emerging brands, involved in traditional and non-traditional design, offering simple standalone and complex/integrated products, with strong and limited digital capabilities. The initial objective: Recreate physical showcase events as faithfully as possible in virtual space, using the best technology we could bring to bear to accomplish this.

Designing a metaverse for design and fashion showcase events

In designing a virtual showcase, however, we came to an unexpected realization about the limitations of our metaverse, which mirrors the realization many other organizations are now experiencing. The closer we got to representations that users perceived visually as truly “real,” the less they were convinced by them. The virtual realism we were able to create did register on the perceptions of users, but it also did something else: it set additional expectations about the user’s ability to interact with products in other ways that would have been possible in physical space. And we were unable to meet all these expectations. So, for example, the more visually lifelike a design product seemed in VR, the more frustrated people became that they could not reach out and touch it. And even if we were able to simulate the sensation of touch, the virtual representation would disappoint in some other subtle way. In effect, in convincing the user of the visual realism of a product in virtual space, we were making implicit promises about other sensory experiences that we could not keep with the technology we had.

Specifically, we came to understand that an immersive digital environment, even one that can visually emulate a physical environment, is still a digital environment. This may seem like a disappointing conclusion to reach. However, we believe it is actually grounds for optimism regarding the future of the metaverse. As the Virtual Stage project unfolded, we came to realize that immersive VR spaces had huge potential, as long as we stopped asking them to act like physical spaces. We summarize this with two key learnings.

First, realism should not be the goal. Like many people, we initially assumed that a more realistic immersive environment would be key to replacing the physical environment. What we found was that, not only were we unable to create something that felt truly “real”, but that the closer we got, the less users liked it.

Studies of robots and digital avatars have long observed a phenomenon known as the “uncanny valley”, in which humans begin to find interactions unsettling when the artificial representations get too realistic. This is because the people interacting with the robots and

avatars begin to shift their expectations from interacting with a machine to interacting with a person. At that point, minor inconsistencies in sound, light, or movement become distracting or even creepy.

The more accurate the depiction of a material, the more they were distracted by the lack of natural light and variation in that material. The closer we got to emulating the physical inspection, the more disappointing it became.

Second, the metaverse is an airport, not a destination. Building on the idea of the metaverse as an all-inclusive space for information and interaction, we initially assumed that individuals would want as much of the experience contained within that space as possible. Instead, we found that few people wanted to spend more than a few minutes in the metaverse at a time. Instead, individuals typically wanted to feel physical samples of materials or browse different ranges using social media, websites, etc., and then use the metaverse as a space to see those items placed together, or as a space to show collections to others. The ability in a VR showcase to “zoom in” and skip the majority of a larger showcase event was a significant positive for many users, some of whom often skipped physical events because they found them exhausting and difficult to schedule. Instead, most users liked the idea of combining the metaverse with other tools and meetings so they could complement other processes with short, intense visits to VR to discuss and evaluate ideas. They wanted to use the metaverse as a jump-off point to stimulate further exploration that would rely on traditional meetings and online tools, or as a landing point to crystalize ideas at the end of an exploration.

There’s life, Jim, but not as we know it

The optimism around the metaverse may have been naïve but, as is so often the story with new technologies, the subsequent pessimism is equally so. The early vision of the metaverse as a space that can combine the qualities of physical and digital spaces, and so reduce the number of tools and stages required for collaboration, does not appear to be a promising direction. Instead, it seems the power of the metaverse is that it presents additional steps and tools, and increases connectivity across physical and digital systems. We do not expect VR to replace physical meetings, videoconferencing calls, or browsing the

web. The more the metaverse tries to compete with these things, the more its limitations will come into focus. Rather, we propose that the metaverse presents new capabilities that can make those other activities more effective. It provides a middle ground for the progression of social interaction from physical to digital interaction, and vice-versa. It allows organizations to share information which can be viewed in its physical context. It also allows that physical context to be stored, evaluated, and possibly redesigned using digital tools. This, we argue, is the promise of metaverse. It will not just change our existing practices; it will introduce new ones we didn't realize we were missing.



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