CAPCO

METAVERSE –

BEYOND THE HYPE CYCLE

a **wipro** company

In what follows, we try to take a step back from all the hype surrounding the metaverse since the Facebook/Meta transformation announcement last fall and review what the metaverse is all about, why it is so appealing, what is still required to go from early adoption to mainstream and, especially, what this means for the finance and insurance industries.

WHAT IS BEHIND THE IDEA OF THE METAVERSE?

As many may already be aware, the word "metaverse" was first coined in Neal Stephenson's 1992 seminal novel, "Snow Crash."[1] In his book, Stephenson describes the metaverse as mainly a night-time virtual street in which people can do business and most large corporations have a presence, continuously bathing its avatars with all forms of neon-light advertising. In "Snow Crash," all virtual property in the metaverse is managed and operated by an NGO named the GMPG.

It is, by no means, the first time the concept of a virtual world was introduced in the cyberpunk genre, a genre from which we have previously borrowed many Internet related terms, such as cyberspace in Neuromancer[2] (1984) or even the notion of the "web" in Web of Angels[3] (1980).

But it is the word that has us polarized today, given Facebook's decision to rename itself Meta and focus its non-negligible resources on the metaverse as announced by CEO Mark Zuckerberg on Oct. 28, 2021.

Some may also be familiar with the more recent "Ready Player One"[4] (2011), a book by Ernest Cline turned into movie by Steven Spielberg. In this book, the metaverse is referred to as "the Oasis" which is a virtual environment made up of worlds in which people learn, work, live, and play. In the book, the Oasis is owned and operated by a benevolent corporation and being coveted by a second corporation with much more nefarious monetary goals.

Maybe more fundamentally the Greek definition of "meta," which stands for beyond, above, or transcending, tells us that the metaverse is meant to be a universe transcending ours.

One of the main themes that each of the works relating to the metaverse have in common is that the metaverse is one place, one universe which everyone accesses through a variety of different hardware, yet one place, however vast, e.g. Ernest Cline's "the Oasis" has the properties of a galaxy with multiple worlds, each with a different purpose.

The metaverse that we know today, and can be accessed by, for instance, VR headsets, is by no means one place, it is a vast range of "places" and "worlds" brought together by a variety of technologies, for which a grand unifying platform has yet to be defined, let alone created. The works of these authors do, however, provide us with a potential glimpse into what the future of the metaverse might look like.

PIECES OF THE METAVERSE HAVE EXISTED BEFORE

Though the term metaverse may have gotten particular attention in 2021, virtual worlds have existed for a long time. The most notable example is probably Second Life.[5] Second Life was released in 2003 as a user-focused, community-driven experience. After initial hype and a rapid user base ramp-up to more than 1 million users, Second Life stagnated with a user base of approximately 800,000 users.

Second Life includes a lot of the aspects one would expect from a metaverse – it has avatars representing its users, interactions, the ability to build content, its own currency and exchange. The one aspect of the metaverse Second Life has been lacking, though it was a key element of why it was originally conceived by Linden Labs, is an immersive capability using VR hardware.

Nevertheless, as an early metaverse platform, much can be learned about the benefits and pitfalls of a virtual environment.

One of the noteworthiest pitfalls Second Life faced was the backlash it received when it had to prohibit in-world gambling activities due to regulatory pressures and the different legal frameworks that exist around gambling in different parts of the world. The backlash of this decision cost the platform many users, as well as a substantial loss of revenue. In addition, Second Life has also dealt with a variety of other issues, such as adult content, property acquisition (buying and selling), etc.

When it comes to avatars, an integral part of the metaverse, Asia, and especially South Korea and Japan, has been prolific. Avatars have been a prominent part of social media since 2016, in large part driven by the entertainment industry.

Zepeto,[6] a virtual content platform created by Naver Corporation, has been around since 2018 and attracted fashion companies, such as Ralph Lauren, Gucci, and Dior, to design clothing pieces for avatars.

In Japan, virtual personalities, such as the AI powered Kizuna,[7] have been a large part of social media since 2016 with recent focuses in the gaming industry.

We have much to learn from these early adopters, as avatars become an integral part of digital identities,[8] both our own as well as the identity of some of the systems we will be interacting with.

STATE OF THE METAVERSE TODAY?

A lot of ink has been flowing about the metaverse since October 2021, whether it is companies, such as Microsoft and Facebook, making announcements about their virtual or augmented reality platforms or Morgan Stanley building a presence in Decentraland. So much so, it has become difficult to pin down what the metaverse really is. Is it a universe enabled by virtual reality technology, providing new experiences and interactions? Is it a 3D technology platform representing virtual real estate where every parcel is linked to an NFT (non-fungible token) managed through one or more blockchains? Is it a series of apps provided through your preferred VR app store which allows you to explore new gaming and productivity capabilities? Today, it is probably all the above. Maybe tomorrow, it will be closer to the visions of Neal Stephenson or Ernest Cline.

The Virtual Reality Enabled "Metaverse"

When it comes to productivity and enterprise solutions, a number of companies have launched platforms for virtual interaction and collaboration, including, Microsoft with Mesh and its acquisition of AltspaceVR[9] (2017), and Facebook/Meta with the Horizon platform built by the Oculus team acquired in 2014. Not only are big technology companies looking to tap into the metaverse, there are smaller players, like Spatial.io,[10] Mesmerise,[11] or Glue[12] which are also working on providing virtual spaces for meetings and collaboration, similar to Microsoft and Meta.

Though productivity tools, such as Word or Excel, are still part of our 2D desktops, some platforms, such as Immersed,[13] vSpatial[14] or Horizon Workrooms,[15] have started bridging that gap by offering solutions to interact with your desktop in a VR environment.

The "Decentralized Metaverse"

Elsewhere in the metaverse, 3D avatar-based platforms, such as Decentraland and The Sandbox,[16] provide a system where digital land and assets can be managed and transacted on through blockchain and cryptocurrencies. These platforms, though not currently enabled with virtual reality support, have also been labeled as metaverse. In the case of Decentraland, the creators are even taking steps to put in place a self-governance model through the DAO[17] (Decentralized Autonomous Organisation) somewhat reminiscent of the GMPG in Neal Stephenson's Snow Crash. The Sandbox, on the other hand, positions itself more as a gaming platform. Regardless of their creator's vision, both platforms have gathered support from reputable brands, such as Adidas, Atari, Samsung, Coca-Cola, and many others.

A Great Start With Many Things Yet To Come

Whether enabled with virtual reality capabilities or a decentralized blockchain based economy, we have to recognize that whatever the metaverse is or is not, it is still in its infancy. Though massive strides are being made on platforms and technologies to enable it, a lot more will be required to make the kind of transparent interactions described by some of its visionaries a reality. Whereas authors, such as Stephenson or Kline, envisaged interactions with these different universes that were lifelike and reminiscent of our existing day-to-day interactions with the physical world, today's metaverses still follow the portal/storefront/app paradigm that we have become all too familiar with on our mobile phones, and a unified metaverse, such as "the street" or "the oasis" is, at best, a distant goal to be achieved.

In many ways, a common stratum on which to build the metaverse, similar to what the HTTP protocol, HTML and CSS standards, and URLs are to today's internet, will need to emerge for the metaverse to provide its users with the kind of seamless navigation experience pictured in Snow Crash or Ready Player One.

Subsequently, this stratum will need to be mastered by developers and MetaXPerience designers to build the types of universes in which the users interact with sellers, corporate entities and each other not by logging in to an app but by stepping into their virtual office, walking through a door or teleporting to another world.

The MetaXPerience Designer – MetaXPerience

Unlike today's experience designers, the MetaXPerience designer will have at their disposal a nearly unlimited toolkit of capabilities. This will allow them to design an interaction in a three-dimensional space that can represent almost anything, giving limitless freedom to their imagination through stereoscopic visuals, spatial sound, and movement. Though fundamental experience design rules will not change, the MetaXPerience designer will have to apply these rules across the many dimensions of a 3D environment, spatial sound, interactions both with the 3D environment and between participants, locomotion, and more.

Given the breadth of creative possibilities of this space, many artists are already exploring what can be achieved with the current capabilities of the technology, e.g. Stageverse, a virtual world and live events platform is positioning itself as a cultural hub for artists and creators and has partnered with the brand Balmain to design virtual outfits for avatars, Shantell Martin[18] for an art exhibit or rock band Muse[19] for a virtual concert called "The Simulation."

Enabling Hardware Is Evolving

Not only is the right software stratum necessary to make the promises of the metaverse come true, but so is the need for the right interaction hardware. As many who have donned a VR headset will have noticed, gone are the mouse and keyboard. New human-machine interfaces are used to interact with the 3D world in which the user evolves.

Many of us may have seen new controllers designed to navigate in 3D space yet receiving feedback from the "metaverse" other than visual and audio cues is still challenging, companies are just starting to explore the ability to provide real-time feedback to our senses. Whether it is through new, haptics-based hand controlled devices, such as UltaHaptics[20] or the future Meta Gloves,[21] mind-machine interfaces, such as the one developed by NextMind,[22] or VR treadmills (from OmniVR[23] or KatVR[24]), we will likely see an explosion of new hardware to support our metaverse interactions.

We Are Only Scratching The Surface

How software and hardware platforms will bridge in order to provide a seamless experience to the user will be a challenge to both framework developers for the "metaverse stratum," as well as the MetaXPerience designers who will use these interaction capabilities to create extremely immersive user journeys.

And these are only the technical- and experience-related questions we will have to answer. Along the way, many other questions around privacy, regulation, and sovereignty of digital worlds, ownership, and inheritance of digital assets, etc., will all need to get answers. But let us keep those for future articles and let us focus now on how we can embrace the metaverse today in our industry.

Taking a step back, what we are seeing is a convergence of ideas, software platforms, and technologies that open new possibilities of how we interact with the digital world and each-other:

- Creating new environments for the purposes of entertainment, commerce, socializing, or productivity.

- Creating new experiences that enhance our interactions and give us new ways to express ourselves.

- Building virtual societal models in which decentralized models for governance and finance can be validated.

We are probably only scratching the surface of the possibilities of the metaverse.

EXPLORING THE POSSIBILITIES FOR OUR INDUSTRY

Though aspects of the metaverse have existed for many years, we feel comfortable stating that we have now reached an inflection point where the technology has gotten sufficiently advanced that our industry needs to notice it, and financial institutions and insurance companies should start planning their journey into the metaverse.

We believe these enabling capabilities are now at a point where it is time to look at broader applications than the one-off marketing gimmick, such as a presence in Decentraland or engaging AR based videos for retirement planning. In what follows, we explore what paths to adoption could look like based on the current state, and how these paths can lead to gradual exploration, understanding and the building of a foundation, while the industry matures.

First Steps

We will start by stating what we tell everyone we talk to about virtual reality and the metaverse: "do not expect to understand what we're taking about until you have donned a VR headset and **experienced** it for yourself."

The first step in your journey will be convincing your stakeholders that the technology is evolving from just a gimmick to something that will improve interaction and productivity. Given several solutions exist to host meetings in VR, which are a vast improvement over the "flat" Teams or Zoom meetings we've all been subjected to during the pandemic, why not bring together your stakeholders in a virtual space to demonstrate what it means to "be in the metaverse."

Experience it First before Exposing your Customers

With some stakeholder support garnered, start engaging employees. Selecting a group of employees as your early adopters to have regular meetings in VR will help you create a baseline of expectations, see what works, and see what does not.

Validating different meeting concepts, as a lot of aspects of the VR experience you will want to convey need to be considered.

- Avatar look and feel (Facial type, hand representation)

- Movement in VR (teleportation or fluid movement)

- Spatial audio, while great for allowing small group conversations and private conversations is less of an advantage when addressing a plenary session, for instance

- Real-time translations

- 3D representation of the space. Whereas, some spaces are conducive to more intimate one-on-one conversations, others work well for large audiences. The 3D space will also be important to convey branding in some cases, or other types of messages.

- Interactions in the space, such as whiteboarding or creating brain maps.

- … and probably more that will surface as you experiment with metaverse capabilities.

This may also be the right time to start thinking about engaging a designer or what we referred to previously as a MetaXperience designer.

Given the richness of experience parameters to be considered, we do not recommend immediate customer engagement in the journey, as we feel it is important to validate usage scenarios internally first. It will help your teams determine what works well for your brand and engagement models and what does not.

At the same time, you will also be able to determine how to approach people who are more comfortable with various aspects
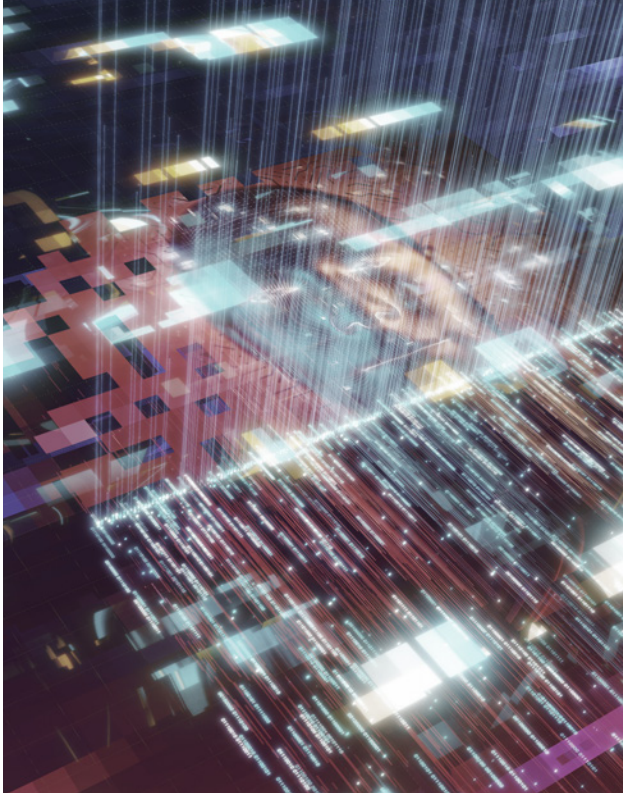
of the technology and experience, and those who are not. As an example, with the current technology some people may be more easily nauseated by their VR experience than others, while current headsets may also be hard to support for extended periods of time for some.

As your employees and experience team get more familiar with the possibilities (and limitations) of the metaverse, other avenues can start to be explored:

- Productivity in VR. Linking your VR headset to your desktop with the appropriate software (e.g. Immersed[13]), can provide the ability to render one or more virtual monitors in virtual reality extending the employee workspace beyond the cubicle. Though keyboard interactions may still be troublesome, voice interactions can be highly effective.

- Training in VR has been proven to be more efficient than other types of computers or classroom-based training for number years (e.g. flight simulators or surgery) as people learn best when doing and VR is uniquely positioned to simulate the "doing." But VR is also able to recreate experiential situations that can be used to train employees for soft skills, such as empathy or active listening.[25]

Toward a Customer Experience

When familiarity with VR grows in your organisation, start engaging your customers. One of the initial hurdles and why not all customers can participate in the metaverse today is access to hardware. However, depending on the customer segment being targeted, headsets could be loaned, rented, or gifted as an initial step to facilitate access.

Loyalty programs or incentives can be used to provide customers with headsets. Marketing teams can be challenged to find a means of bringing the technology to our customers so they can enjoy the benefits of solutions, such as:

- VR-based investor conferences (e.g. Morningstar's 2021 conference[26]).

- Portfolio reviews conducted in VR will provide your advisors with a depth of visual capabilities that neither an in-person nor teleconference-based review can provide.

- A virtual branch, which can be used by customers to learn more about your products, ask questions, or allows younger customers to engage with your brand and get an initial financial education, will offer new ways to engage with existing or potential customers.

- VR simulations of incidents, such as flooding or car accidents could be powerful sales tools for the insurance industry to showcase how different policy options can help clients choose a multi-risk insurance policy.

Through these journeys, your organisation will be able to build up its knowledge and capabilities in VR and the metaverse, and build a strong foundation in:

- 3D and VR experience design

- 3D content creation, modeling, texturing, and the creation of a 3D-content pipeline

- XR development

- The integration with various metaverse platforms

- The logistics involved in procuring headsets and accessories to enable employees and customers to partake in the metaverse experience.

Into the Metaverse…

The build up of these foundational capabilities will ultimately lead to the creation of what can become your own metaverse platform, where we foresee that, in the future, employees and customers will be able to seamlessly interact in a fully connected ecosystem.

In this future, the employee working in VR can teleport to a customer in need to assist them with what they need. That employee can be anyone in the organisation with the specific skillsets to help that specific customer.

Customers can gather in your metaverse plaza to converse and exchange investment ideas, with advisers at hand or AI-based avatars to help them navigate specific products.

Your employees and customers can meet and work in tailored VR environments specially conceived for the types of interactions they want to conduct – meeting rooms for formal project discussions, a beach for an informal one-on-one meeting, an abstract art exhibit for the exchange of ideas, and many other use cases we have not yet even thought of.

And its Digital Assets

As you explore this new space, it will also give your organisation an opportunity to better understand the digital assets that exist in the metaverse, which may lead to further insights in the types of products that can be created to support customers who are now, or will be in the future, investing in these digital assets.

- What constitutes a digital asset (3D model, textures, animation, code)?

- What does ownership of a digital asset mean?

- How can ownership be protected and/or transferred?

- Can we insure a digital asset?

- How can we valuate a digital asset?

- And many more …

In Conclusion

In closing, whether we call it "Metaverse" or "Web3" or "XR," we believe we are at an inflection point where several technologies (AR, VR, blockchain, AI, …) are poised to trigger significant transformational change in our digital world.

XR technologies (AR, VR, MR) and their ability to fundamentally transform how we experience the digital world or the interplay between digital and real world, will be central to this transformation. Though numerous aspects of the technology will need to be refined, we have shown that many solutions are ready to be explored and used to make your organisation more productive and more appealing to customers who are embracing the metaverse, and we recommend starting adoption in order to create the experience, awareness, and foundation to get ahead of the coming wave of change.

But first … put on a VR headset and start experiencing this new reality for yourself!

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