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COMPASS

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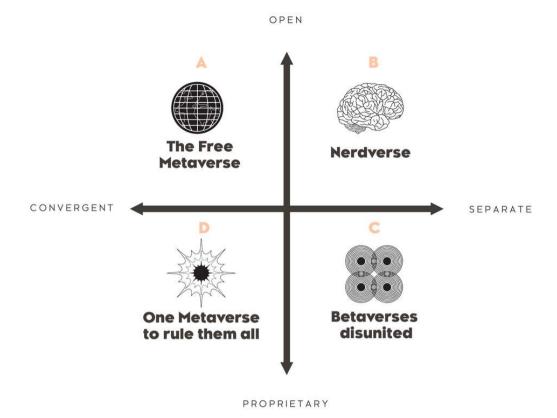
Bugge Holm Hansen and Sofie Hvitved

Imagine a future where the physical and virtual worlds have merged. Where our surroundings are enhanced with virtual layers, allowing us to experience, learn and interact in completely new ways. A future in which we have progressed from being on the internet to being in the internet with the content surrounding us visualized in our environment. This is how we see the metaverse unfolding.

We are already seeing an increase in the number of immersive and generative technologies being implemented into our daily lives, from augmented lenses on our smartphones and virtual reality meetings to content created by Generative AI such as DALLE 2 and ChatGPT (openAI.com). But how will it develop in the future? What might different possible futures of the metaverse look like? Who will develop the content and framework for the metaverse? How will it affect our society? And not least, how can we as futurists equip and inspire individuals, organizations, decision-makers, and the public to act on the future's metaverse, today.

A FUTURIST'S TOOLBOX

How should we approach the metaverse as futurists? We propose a toolbox that allows futurists to embrace uncertainties, and resists the urge to draw conclusions about the direction it is taking. While considering possible, plausible, and probable futures, we will include the possible wildcards that might shift the development in a whole new direction.

While writing this article, we are currently conducting a metaverse Delphi Study at the Copenhagen Institute for Futures Studies -- the first of its kind seeking collective knowledge and perspectives from a diverse panel of global experts on the future of the metaverse towards 2030. The study is not yet complete; however, we can already see the outlines. While the topic remains so ambiguous that even experts disagree on many points, there seems to be a consensus on the fact that the metaverse will have a significant impact on society, individuals, and organizations.

OPEN

A The Free Metaverse

B Nerdverse

CONVERGENT — SEPARATE

D One Metaverse to rule them all

C Betaverses disunited

PROPRIETARY

In the spring of 2022, we published a whitepaper at the Institute where we explored four plausible future scenarios on the immersive metaverse. We did this to challenge and inspire perspectives on the future, as well as gain a better and deeper understanding of the critical uncertainties shaping the metaverse [[1]]. They were also designed to frame and develop robust alternative futures scenarios and to discover alternative futures perspectives that have high relevance for decision-making.

Our position was that the development of the metaverse will be dependent on a set of technologies that have been fully developed, scaled, and adopted by the mass market; technologies that will enable a more seamless convergence of our physical and digital reality.

At the Copenhagen Institute for Futures Studies, we distinguish between immersive elements and the underlying infrastructure that may shift toward decentralization. This has been conceptualized as web3 and primarily concerns who will own and govern the internet of the future. It is enabled through technologies such as blockchain, social tokens, non-fungible tokens (NFTs) and, in general, a higher degree of user participation like Decentralized Autonomous Organizations (DAOs). In contrast, the immersive metaverse is more concerned with how people will interact and experience the internet of the future, not so much the infrastructure.

Four Possible Scenarios

SCENARIO A: 'The Free Metaverse'
Open and Convergent

In this scenario we see groups of interested people – some voluntary, some commercial – that come together to create a Metaverse that they see as the replacement of the World Wide Web (or 'Web2'). A new decentralized, interoperable go-to interface to the next internet; one that blends the physical world with a shared virtual world using various Extended Reality technologies.

This scenario incorporates blockchain technologies that enable decentralized proof of ownership of both digital and physical assets using the up-to-date versions of NFTs, smart contracts and payment systems, allowing seamless payments all over the Metaverse.

In this scenario, we see a new range of business models where decentralized autonomous organizations own many of the big brands, and where new 'Web3-native brands' have grown to become the biggest and most powerful in the world.

In scenario A it's the users who calls the shots with an open sourced metaverse that is being maintained by the users in ongoing agreements and self-regulation.

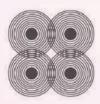## SCENARIO B: 'The Nerdverse'
Open and Separate

Here we see a similar development as scenario A with groups of interested people that are working on creating the Metaverse as a successor to the World Wide Web. But a sustained interest turns out to be limited, once the initial curiosity has passed.

Much like earlier 'betaverses' like Second Life, the Metaverse does not offer anything that most users feel they really need. The technologies around the Metaverse haven't really proven their worth, and the big 'legacy' brands who invested heavily in entering the Metaverse didn't manage to integrate the new Web3 logics into their solutions, hence failing to understand the new consumer needs of co-creation and co-ownership.

An example of which was Nike suing Web3 creators in the early days of the Metaverse that eventually resulted in a lot of users not supporting their Web3-solutions. Hence, the Metaverse in this scenario is a world where the ideology of Web3 failed because of politics and power struggles of the new virtual economy.

Since this Metaverse is only for the few it is often jokingly called the Nerdverse. This image becomes self-reinforcing, since only self-proclaimed nerds want to use a Nerdverse.

In scenario B it's the tech-savvy, the nerds, that calls the shots. The Nerdverse is simply too complicated to have become mainstream, hence few big brands bother to have a presence.

SCENARIO C: 'Betaverses disunited"
Proprietary and Seperate

In a rush to cash in on the (somewhat nebulous) hype of the Metaverse, a dozen major Big Tech companies each come forward with their own product they say is THE Metaverse. Superpowers like China and Russia make their own public, censored versions.

 Almost all they have in common is the use of virtual 3D metaspaces that can be accessed by various extended reality technologies as well as by more conventional interfaces.

 None aim to replace the World Wide Web as a general internet interface but are basically virtual social spaces where you can represent yourself with an avatar, interact with others in public or private metaspaces, and buy all sorts of things from virtual marketplaces. And the company behind the individual 'metaverse' all take their cut of the transaction.

 In scenario C it's the powerful organizations that calls the shots. The betaverses are owned and run by big tech companies or governments, and the owners decide who can use their betaverses and how – and users can take it or leave it.

SCENARIO D: 'One Metaverse to Rule them All'
Proprietary and Convergent

As in Scenario C, many Big Tech companies rush to build their own versions of the Metaverse. However, one of them quickly becomes far more popular than the others, either because of better functionality, better conditions for the creators, having the best advertisement campaign on the right channels, or simply being a successful first mover.

 This popularity becomes self-reinforcing as the greater income acquired from the greater popularity allows continual improvement and expansion of the functionality and experience of their Metaverse. This happens to a degree that the competitors simply can't follow – and, of course, users want to go where other users are. After all, it isn't much fun bowling alone.

 In scenario D it's the monopolies that calls the shots and a single, commercial metaverse has arisen to become a de-facto monopoly.

THE POWER OF UNCERTAINTIES

There are a lot of uncertainties related to the development of the metaverse that will be critical in determining how it will evolve: What technologies will be included? Who will implement it? How will it be accessed? Will it be centralized or decentralized?

Among the many uncertainties, we have identified the following two as the most critical due to their significant impact: Open vs. Proprietary, and Convergent vs. Separate. We create four scenarios based on these uncertainties using the classical 2x2 scenario axis, one of the methods we use at the Institute. The scenarios are: The Free Metaverse, The Nerdverse, Betaverses Disunited and One Metaverse to Rule them All.

We will not be diving into the scenarios in this article. Instead, we would like to draw your attention to the value of using scenarios when dealing with the metaverse. This is due to scenarios allowing us to understand the various dynamics of possible futures.

We will concentrate on a driver of change that we feel is a neglected blind spot that might have a bigger impact than expected: The role of Generative AI in the metaverse.

THE GENERATIVE METAVERSE

About a year ago we published an article in our publication, Scenario Magazine, with the title "What If 99% Of The Metaverse Is Made By AI?" [2]. The article sparked a debate amongst futurists on the significance of Generative AI. But now, nearly a year later, it is even more apparent that we must consider how much future content on the internet – and, ultimately, the metaverse – will be generated by Generative AI.

Obviously, any attempt to forecast a particular percentage would be a futile exercise, however, it puts the issue into perspective. As always, we work with different scenarios, but in this article, we focused on a scenario in which GPT-3 is let loose, GPT-4 lurks around the corner, and the internet is rendered unrecognizable. In this scenario 99% of the content would be AI-generated by 2025 to 2030. The development of automated content creation would change the way the internet looks and most likely make it even harder to navigate the massive amount of content. In many ways it seems like a scary scenario. It is no secret that the development of automatically generated content with natural language processors and generators such as GPT-3 is booming. We see this in DALL-E2, Midjourney, Stable Diffusion and the latest ChatGPT.

The big question is, what will happen if you mix the attention economy of the current internet with a future in which AI will be creating the dynamic environment in the metaverse? And what happens when you combine this with the development of synthetic media and virtual beings in the metaverse? The dystopian scenarios are mind-blowing, with deep fakes, fake news and misinformation flooding the metaverse. But we also see a range of positive scenarios in which AI could provide built-in ethical content creation, making the metaverse a collective virtual shared space based on a new set of values and an ethical code of conduct.

There is a need to start a dialogue about the logic being built into the future content models. How do we make sure that these models are built upon valid data? What about bias in historical data? Do they reflect how we want our future to be built, if Generative AI creates the dynamic environment in the Metaverse? What happens when the automated content (which will undoubtedly have many flaws and a large margin of errors) becomes the very foundation upon which future models are built? It may seem like an impossible task to grasp the implications for the future media landscape however, it is something we must be very aware of when developing the infrastructure and logic of what we call The Generative Metaverse.

LONG-TERM USER WELFARE

As we enter the year 2023, those working on the metaverse are transitioning from a fascination with the concept's novelty toward embracing long-term thinking with an emphasis on how it may affect us as individuals and as a society in the long run. The consequences of social media and the attention economy are beginning to rise on the priority list of decision-makers and regulators resulting in a greater emphasis on safeguarding and protecting the users with a focus on long-term user welfare.

Among other things, the problem with AI today is that it regularly optimizes towards short-term and overly simplified goals (clicks in recommender systems are a concrete example). New research areas such as AI alignment research is the field of study dedicated to ensuring that artificial intelligence (AI) benefits humans [3].

The question is how we, both as individuals, brands, and organizations, will embrace the merge of our physical and virtual lives and the massive quantities of data in the future metaverse. Will we see public opposition towards collecting data? Will we accept algorithms and digital assistants as a natural part of our lives in the metaverse? The questions and uncertainties seem endless.

As futurists, it is our responsibility to delve into these uncertainties by monitoring signals, identifying new patterns, and translating them into future scenarios in which we can examine potential drivers and blockers as well as determine potential blind spots and pitfalls. We seek to understand the strategic implications of alternative futures and how to transition the newly gained insights into futures-informed strategic decision-making.

It is important to view the metaverse from a long-term perspective since it is an evolution, not a revolution. The cornerstone of a sustainable metaverse must be the wellbeing of its users in the long term. Therefore, its development over the next several years will be crucial. We must have the courage to establish awareness and the confidence to challenge current strategic assumptions by creating insights into different futures while ensuring that stakeholders understand the potential implications if we do not act today.

References:

[1] Mogensen, K., Hansen, B., Hvitved, S. et.al. 2022: "The Future of the Metaverse", Copenhagen Institute for Futures Studies, https://cifs.dk/metaverse
[2] Hvitved, S., "What If 99% Of The Metaverse Is Made By AI?", 2021, Scenario Magazine, https://cifs.dk/news/what-if-99-of-the-metaverse-is-made-by-ai
[3] Kirchner J. et al., 2022, "Understanding AI alignment research: A Systematic Analysis", https://arxiv.org/pdf/2206.02841.pdf

About CIFS

The Copenhagen Institute for Futures Studies is an independent, non-profit futures think tank founded in 1969 by Thorkil Kristensen, former OECD Secretary-General, for the betterment of our society. Essentially, what we do at the Institute is to monitor critical trends and uncertainties to help individuals and organizations make better decisions about the future.

If you are interested in delving deeper into the four scenarios of the metaverse, you are welcome to download it for free on cifs.dk/metaverse

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