Meta:

Facebook's Pivot to the Metaverse – A Path to Dystopia or Blue Ocean Utopia?

Source: Image: Facebook

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At just under three billion active daily users, more people on earth use Facebook than the population of China and India combined.[1] Despite the company's young age, few other businesses in world history have ever enjoyed this level of reach or influence. Facebook has arguably grown into one of the most powerful business entities in history. As of November 2021, its market capitalization stands at a towering $950 billion.

However, storm clouds are approaching. On one hand, the company faces repeat political scandals, and on the other, having signed up virtually every person on earth able to use their core social media product, the firm is approaching the upper boundary of what's possible for organic growth. There is nobody left to sign up who is vaguely interested. Young people especially reject Facebook outright, though they flock to the Facebook-owned Instagram social network.[2]

In the past, Facebook, like many companies, relied partly upon growth by acquisition. In 2012, they purchased Instagram for $1 billion, and in 2014, followed up by purchasing the messaging and video-calling app WhatsApp for $19 billion and virtual reality goggle maker Oculus for $2 billion. However, the wall against organic growth, coupled with social and political problems, makes additional meaningful growth by acquisition unlikely.

In response to these challenges, on October 29, 2021, Facebook co-founder and CEO Mark Zuckerberg announced a strategic pivot.[3] He changed the business's name to Meta and announced his intention to spend an initial $10 billion, and more in the future, to create a metaverse. "Our overarching goal across all of these initiatives is to help bring the metaverse to life," said Zuckerberg.[4] "I think over the next five years or so, in this next chapter of our company, I think we will effectively transition from people seeing us as primarily being a social media company to being a metaverse company."[5]

Origin of Metaverses

> *Hiro is approaching the Street. It is the Broadway, the Champs Élysées of the Metaverse. It is the brilliantly lit boulevard that can be seen, miniaturized and backward, reflected in the lenses of his goggles. It does not really exist. But right now, millions of people are walking up and down it.*
>
> -- Neal Stephenson, *Snow Crash*

The roots of the metaverse concept come from the influential 1992 science fiction book *Snow Crash*. Neal Stephenson envisioned a fully immersive virtual world where people work, play,

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[1]   About 74.8% of Facebook users also use Meta-owned Instagram, which itself has just over one billion users, and WhatsApp has about 2.5 billion users as of Q4 2021. https://www.warc.com/newsandopinion/news/social-media-user-overlaps-mapped/en-gb/46624

[2]   Sweney, M., & De Liz, A. (2018, February 16). '*Parents* killed it': *Why Facebook* is losing its teenage users. The Guardian. Retrieved 2021, from https://www.theguardian.com/technology/2018/feb/16/parents-killed-it-facebook-losing-teenage-users.

[3]   *Welcome to Meta: Meta.* Facebook (n.d.). Retrieved 2021, from https://about.facebook.com/meta/?_ga=2.223718683.1242473503.1636539699-1822373568.1636043255.

[4]   Newton, C. (2021, July 22). *Mark in the metaverse*. The Verge. Retrieved 2021, from https://www.theverge.com/22588022/mark-zuckerberg-facebook-ceo-metaverse-interview.

[5]   For the rest of this text, the name Meta will be used to refer to the new business unless referring to the product, Facebook, or the historic Facebook business.

socialize, spend, and scheme. Stephenson coined the term *metaverse* to describe his world, painting the real world outside the virtual reality goggles as a drab suburban dystopia.

In Stephenson's world, outside the goggles, income disparity has reached critical levels, with countless people surviving as delivery drivers overseen by computers that optimize their work much like factory machinery might be optimized. Hiro, Stephenson's hero, lives in a storage locker. But by putting on his virtual reality goggles and headphones, Hiro is transported into the metaverse, a fantastical world of fun, excitement, adventure, and vastly better housing. The outside world remains drab and depressing, but except for food, it doesn't much matter.

Zuckerberg's Metaverse

The link between Facebook and *Snow Crash* is not coincidental. In 2014, former Facebook data scientist Dean Eckles said new Facebook product managers were required to read *Snow Crash.*[6] Since then, Zuckerberg has been working hard to remove the fiction part of Stephenson's sci-fi novel, apparently overlooking the dystopic nature of Stephenson's vision (Appendix A).

Announcing what *his* metaverse might look like, Zuckerberg zaps himself into a digitized representation of a house that starts from a wireframe then quickly fills in with details.[7] Light pours in, much like it might in a Palo Alto home, but the size of the space feels larger than anything the Palo Alto zoning board would permit. Art adorns the walls but so do spacesuits and suits of armor. Look closely and you notice the view outside one window is a tropical island, but outside another, a Tahoe winter. It's a subtly magical place.

There's a feeling of privacy, of being in a private space, even if both the feeling and space are entirely illusory. Watching Zuckerberg's vision, it's difficult to ignore that the space isn't genuinely private – especially if the user wearing the goggles lives in a shared physical space – but that the virtual world, run by Meta, also suffers the same privacy issues Facebook famously struggles with.

Mark receives a call from a disembodied voice and lifts his hand, much as he would if he were carrying a phone, which is both impossible and unnecessary in this virtual world. A popup appears in thin air, above his wrist, inviting him to "Space Room." The popup looks like a messenger window, complete with a voice transcribed to speech bubbles. Before beaming himself to the Space Room, he's "just gotta find something to wear" and so flips through a few outfits, choosing one that inexplicably looks identical to the outfit he's already virtually wearing in his metaverse house.

Space Room has four people waiting for him, three dressed normally and one rendered as a robot. They're playing cards that float in the air, as one of the meeting participants also does. The group quickly decides to call another person, Naomi, and again Mark lifts his arm as if holding a phone. Although there is no need or place for a phone in this metaverse, a typical smartphone interface appears.

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[6]   Hern, A. (2014, May 13). *As Mark Zuckerberg celebrates his 30th birthday, is Facebook maturing too?* The Guardian. Retrieved 2021, From https://Www.Theguardian.Com/Technology/2014/May/13/Mark-Zuckerberg-30-Birthday-Facebook-Maturing-Purchase-Whatsapp-Oculus.

[7]   CNETTV. (2021, October 28). *Everything Facebook revealed about the metaverse in 11 minutes.* YouTube. Retrieved 2021, from https://www.youtube.com/watch?v=gElflo6uw4g.

Zuckerberg calls, and Naomi answers with video, standing with a flesh-and-blood friend on a decidedly non-virtual city street. Although she's with somebody else, walking through the streets of New York City, Mark asks, "Shall we deal you in" to the game? Unphased by the odd request to ignore her friend and zap to a virtual spaceship while walking with a friend, she instead refers to an artist in Soho "hiding AR [augmented reality] pieces for people to find." She zaps them "3D street art" that looks like somebody spilled a plate of spaghetti at the international space station, with strands floating above a table. "Stunning," somebody remarks offscreen.

We return from the demo metaverse to reality. In 2010, Zuckerberg famously declared "privacy is a social norm of the past," but he now stares at the camera and deadpans "privacy and safety need to be built into the metaverse from day one."[8] To emphasize the point, the verbiage also appears on-screen, the only words spelled out as well as being spoken. Mark barely blinks, and it's hard not to think he looks more like a man reading a forced confession – or maybe a statement from the Meta legal team – than a true believer in privacy. Even then, it's difficult to overlook the passive verbiage "*need to be* built," as opposed to the more definite "*will* be built."

Getting back to his planned new world, Zuckerberg explains that users will have virtual homes, workplaces, and games in the metaverse. Physical products that display anything which can be digitized in the real world will be replaced by virtual metaverse products. For example, there is no need for a real phone in the metaverse: it is replaced by a phone application that presumably has both instant (and likely free or very low priced) upgrades. Televisions, computer screens, books – really, almost anything people can't rest on or eat – will be transformed from a physical thing into a digital app. Many products needn't be more than a digital copy of their physical form. For example, the Meta-owned Oculus Netflix app is already a 3D projection of a cozy living room with a large virtual television screen.

Your Personal World

Zuckerberg's choice of worlds was relatively tame. There's no reason for that suit of armor to hang on the wall; users may as well wear it, helmet and all, or even add a virtual horse to complete the outfit. They may even choose to *be* a horse. Metaverse users can transport to, say, Paris or New York, or some fusion of the two like the Chinese cities that reproduce other places.[9] There's no reason to be tied to *any* physical space or time. If you'd prefer to live in the medieval era, the metaverse can make it so, at least within your goggles. Language barriers will quickly break down as artificial intelligence (AI) translation systems rapidly improve. Virtually anything is possible in the metaverse.

Metaverse technology may improve upon the positive elements of social media, connecting people to their families and tribes no matter where they are in the world. Shrinking physical distance can shrink geographic advantages, enabling collaboration between workers from Bangalore, Bangkok, Bavaria, and the Bay Area. Business meetings in a metaverse will have less environmental impact than far-flung meetings in real life and can offer interactivity well beyond video chats to encourage

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[8] Johnson, B. (2010, January 11). *Privacy no longer a social norm, says Facebook founder*. The Guardian. Retrieved 2021, from https://www.theguardian.com/technology/2010/jan/11/facebook-privacy.

[9] ABC News. (2016, April 12). *China builds fake Paris, London and Jackson Hole | an Inside look*. YouTube. Retrieved 2021, from https://www.youtube.com/watch?v=tO6A7G1TwOI.

creativity and cooperation. Talent could be tapped, and physical borders transcended, no matter where in the world a person physically resides.

In the metaverse, people with physical disabilities regain independence and a form of mobility. Loneliness can be mitigated, especially for the elderly as the goggles bring them to a friendlier world in which they can project their bodies to again be young and healthy. People can find cross-cultural experiences no matter where they live or what their personal level of wealth. Visiting Paris will require nothing more than a snap of one's virtual fingers, enabling anybody to digitally sit on the edge of the Seine, transporting them there virtually, instantly, and potentially for free.

Dull Zoom classes can theoretically become 3D representations of a regular classroom that better enables full-blown interaction. Every student can have access to the latest laboratory equipment, all produced virtually, and be able to experiment to their heart's content without worries about hurting themselves or their school. Real-world frogs will jump with delight as dissections become virtual. Everything from human anatomy to the internals of jet engines can be taught to students, enabling them to potentially learn in more detail and at a better pace than by using scarce materials which may not be accessible to all.

As apps replace physical things, the environmental footprint could theoretically be dramatically reduced. There'll be no more old phones or televisions, all replaced by digital representations of the same with no more harmful environmental impact than streaming a movie. Even the need for clothing could potentially be greatly reduced, with digital fashions for one's online avatar interchangeable and instantly updated to the latest from Paris and Milan while the flesh-and-blood person wearing the goggles remains in sweatpants and a comfortable sweater. Aside from maybe oil companies and commercial property owners, few will likely miss the rush hour commute even though remote work comes at the cost of lost real-world interactions and touch. Because of work-from-home changes brought about by COVID, we're already seeing "dead" towns in remote places spring back to life, a trend that may well accelerate. The rural/metro divide may well shrink, bringing people potentially closer to where the food they eat is grown but also more physically removed from their colleagues and friends.

Trouble in Paradise

This raises a fundamental question: will people *want* to be plugged in or want their children plugged in for hours every day?

There are well-established physical and mental health issues associated with excessive screen use. Minimally, incessantly staring at screens is hard on the eyes. Staring into goggles, which are even closer than screens, is likely to raise further questions about the effects of nearby electronics on health, including and especially on vision. There is also the couch potato effect: sitting around for long periods connected to screens or phones has the potential to accelerate a sedentary lifestyle, which is not aligned with people's physical health and well-being. Indeed, as seen in the US, obesity is surging.[10] The human body was made for movement, and long-term health rests on it.

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[10]   Centers for Disease Control and Prevention. (2021, September 30). *Adult obesity facts*. Centers for Disease Control and Prevention. Retrieved 2021, from https://www.cdc.gov/obesity/data/adult.html.

Although some people may play in the metaverse while on exercise equipment, it still risks inducing a fundamental and widening disconnect between people, nature, and the real world of our planet. Walking amongst trees and plants to the wonder unfolded by a cool breeze or gentle rain or the healing power of watching the ocean swell are known to be beneficial to people's emotional and physical well-being. There is a reason the planners of major cities like New York created enormous nature parks in their centers, and despite years of increasing congestion, nobody has ever seriously suggested encroaching upon them. In New York City, for example, even the suggestion of development inside Central Park would be akin to heresy. Nature is important to the human psyche, and a digital representation of a natural setting isn't the same.

Further, given Meta's historic privacy problems, there is the fundamental issue about whether the public can trust the renamed company, Meta, with the type of enormous power a digital world enables. For example, when users hide an advertisement on Facebook the company asks why the user does not like the ad. The first option is "Too personal" and the third is "Knows too much." Both choices suggest Meta realizes their insight into a user's psyche can be perceived as an invasion of personal privacy.[11]

There is also the issue of Meta's control and power. For example, should Meta decide it doesn't like somebody or a group of people, it could theoretically lock them out, making them disappear temporarily or permanently from the site. That already happens on Facebook, but people do not lose their ability to go to work, which could and would happen if the metaverse is built according to Zuckerberg's vision. Additionally, the same problem exists where traditional news organizations are drawn to produce "click bait," stories and headlines lacking context or even containing outright incorrect information, designed to draw in readers and viewers who are then monetized for advertisers like a farmer milks a cow. There's no indication of how the metaverse might mitigate these issues, or even if Meta believes them to be a problem or if all sides of society would trust Meta to make moderation decisions in an unbiased, consistent, even-handed way. If all sides of society do not trust Meta to address such issues in a fair way by applying the same criteria across all content, given Meta's far-reaching influence, its metaverse could trigger societal conflict with real-world consequences.

Facebook itself is already a metaphorical public square, but the metaverse seems to be a step towards an even larger one, a blending of the physical and digital worlds. This enables the stuff of dreams, though dreams can easily turn to nightmares. Zuckerberg's world may be a paradise for the public, though it is also certain to attract the fraudsters, predators, and all manner of other parasites that social media currently struggles with. It's unclear how Meta will manage this issue.

Given the rushed rollout of the name change from Facebook to Meta, it's difficult to minimize these concerns as Meta struggles with mounting challenges and its business practices increasingly being called into question.[12]

Screen/Gaming Addiction

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[11] The six choices are, in order: 1) Too personal, 2) Repetitive, 3) Knows too much, 4) Irrelevant, 5) Sensitive topic, and 6) Already purchased.

[12] Kamenetz, A. (2018, February 5). *Screen addiction among teens: Is there such a thing?* NPR. Retrieved 2021, from https://www.npr.org/sections/ed/2018/02/05/579554273/screen-addiction-among-teens-is-there-such-a-thing.

In 2021, the Chinese government severely limited gaming time for children under 18. "Protecting the physical and mental health of minors is related to the people's vital interests, and relates to the cultivation of the younger generation in the era of national rejuvenation," said a Chinese government official quoted by an official government news source.[13] In addition, controlling access to gaming also serves as an extension of the Great Firewall.

While the metaverse will not be a game per se, Meta aims to create a never-ending virtual world that people will hardly ever want to leave, raising analogous concerns of addictive behavior. The World Health Organization (WHO) lists "gaming disorder" as a type of addictive behavior resulting in "marked distress or significant impairment in personal, family, social, educational, occupational, or other important areas of functioning."[14] Game addicts exhibit impaired control over gaming, give increasing priority to gaming over other life interests, and escalate their gaming despite negative consequences, according to the WHO.[15] "If you are living in an online world, there is a risk of a disconnect from your physical self, which is particularly dangerous," according to Dr. Louise Theodosiou, an adolescent psychiatrist. "If you have something distorting the relationship between the emotional and analytical parts of the brain, it's potentially damaging and also very compulsive."[16]

While it's unlikely that Meta *purposefully* wishes "negative consequences" on their users, it is unclear if Zuckerberg believes transferring a large part of a person's life into his metaverse is negative. However, as former Google "design ethicist" Steve Inskeep puts it, the industry is "less and less about actually trying to benefit people and more and more about how do we keep people hooked."[17]

Countless stories of gaming and internet addiction are easy to find. One teen on the site GameQuitters.com recounts staying up until 5:00 AM gaming when he was seven or eight years old, followed by years of impaired schooling and even outright theft to support his gaming habit. "I was stagnant, not growing, and just living with this constant desire to be playing games," wrote the author.[18] Another recovering adolescent game addict writes: "I started playing [video games] when I was around 9 years old. I played because I found it fun, but after a while I played mostly because I preferred it over socializing and confronting my problems."[19]

13   Goh, B. (2021, August 31). *Three hours a week: Play time's over for China's young video gamers*. Reuters. Retrieved 2021, from https://www.reuters.com/world/china/china-rolls-out-new-rules-minors-online-gaming-xinhua-2021-08-30/.
14   https://icd.who.int/dev11/l-m/en#/http%3a%2f%2fid.who.int%2ficd%2fentity%2f1448597234
15   World Health Organization. (n.d.). World Health Organization. Retrieved 2021, from https://icd.who.int/dev11/l-m/en#/http%3a%2f%2fid.who.int%2ficd%2fentity%2f1448597234.
16   Hymas, C. (2018, January 8). *Warning over link between depression and video game addiction after MRI scan shows proof.* MSN. Retrieved 2021, from https://www.msn.com/en-in/health/medical/warning-over-link-between-depression-and-video-game-addiction-after-mri-scan-shows-proof/ar-BBLlJby.
17   Kamenetz, A. (2018, February 5). *Screen addiction among teens: Is there such a thing?* NPR. https://www.npr.org/sections/ed/2018/02/05/579554273/screen-addiction-among-teens-is-there-such-a-thing.
18   Blog, G. Q. (2021, August 9). *This gaming addict stole his parents' credit cards to buy more games. Today he's 200 days clean.* GameQuitters. Retrieved 2021, from https://gamequitters.com/gaming-addict-steals-parents-credit-cards/.
19   Kamenetz, A. (2018, February 5). *Screen addiction among teens: Is there such a thing?* NPR. Retrieved 2021, from https://www.npr.org/sections/ed/2018/02/05/579554273/screen-addiction-among-teens-is-there-such-a-thing.

Throughout the world, there are in-patient internet and gaming addiction clinics, much like their substance abuse counterparts. One website lists "luxury rehabs … focused on detoxing from technology for teens and young adults."[20]

Convincing parents to invest in more computer hardware to enable ever more screen time may prove an uphill battle. In addition, while Western countries have not taken the Chinese approach to limit young people's screen time (though they restrict alcohol and tobacco sales to adults because of their addictive and destructive properties), if screen time evolves to be seen as similarly dangerous, especially among youth, it's not too farfetched to believe some level of regulation may be forthcoming in Western countries as well.

A Real-Life Business Model for a Virtual World

> *Put a sign or a building on the Street (of the metaverse) and the hundred million richest, hippest, best-connected people on earth will see it every day of their lives.*

-- Neal Stephenson, *Snow Crash*

Even dating back to Stephenson's original vision, metaverses have massive profit potential. But specifics about their business model, for Meta and other metaverses, remain blurry.

Conspicuously absent in Zuckerberg's announcement were answers about how the firm plans to financially profit from the metaverse. As noted above, he stated that they will be investing an enormous amount of capital, at least $10 billion in the first year and more in subsequent years, to build the technology. He also stated that they will lose money for a long time investing in their metaverse. But as a company with annualized revenues of $116 billion and profits of $36.8 billion (based on projecting Q2 2021), Meta has extraordinarily deep pockets for future investment.

Zuckerberg needn't worry about Wall Street getting antsy. As of Q3 2021, his personal net worth is about $120 billion. He purchased the Palo Alto houses around his own to protect his privacy and owns an enormous Hawaiian estate. Due to the way Meta is structured, Zuckerberg controls 58% of the voting rights, a figure virtually impossible to dilute with publicly traded shares.[21] Meta Class A shares, the ones the public trades, receive one vote, but the business is controlled by Class B shares which each receive ten votes and are not publicly traded. These Class B shares are overwhelmingly owned by Zuckerberg (see Appendix B). Zuckerberg has the right to unilaterally decide the business's investment priorities. Should he decide to spend all Meta's profits plus more on the metaverse for the foreseeable future, ordinary investors who disagree have little recourse but to sell their stock.

There is an enormous amount of revenue potential in buying and selling digital things. Apple realized 2019 profits of $8.5 billion from gaming alone, a figure disclosed in a recent lawsuit.[22] Since Apple captures one-third of the money spent, we can extrapolate gamers spent about $25.5

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[20] Luxury Rehabs. (n.d.) *Best gaming rehabs.* LuxuryRehab. Retrieved 2021, from https://luxuryrehabs.com/condition/gaming/#browse-all.

[21] Lauricella, T., & Norton, L. (2021, October 7). *How Facebook silences its investors.* Morningstar. Retrieved 2021, from https://www.morningstar.com/articles/1061237/how-facebook-silences-its-investors.

[22] Higgins, T. (2021, October 2). *Apple doesn't make videogames. But it's the hottest player in gaming.* The Wall Street Journal. Retrieved 2021, from https://www.wsj.com/articles/apple-doesnt-make-videogames-but-its-the-hottest-player-in-gaming-11633147211?st=x3tad5ypqtit2gk&reflink=desktopwebshare_permalink.

billion on iOS games alone in 2019. Industry estimates are that global gaming revenues will reach $198 billion by 2024. Still, it's difficult to imagine Meta will abandon its traditional core market of selling highly targeted advertising.

On November 9, 2021, the firm did announce, after the Meta pivot, that they'll stop enabling ad targeting based on health, race, ethnicity, political affiliation, religion, sexual orientation, and other similarly sensitive attributes. It's too early to know if the changes reflect a heartfelt pivot towards privacy or are in response to, for example, an ongoing lawsuit by the US Department of Housing and Urban Development, which sued Facebook for enabling illegal advertising based on race, religion, and national origin.[23]

Meta Isn't the Only Metaverse

Other tech firms besides Meta have built or are building or exploring metaverse technologies but describe a vision and business model with more tangible benefits.

"With our metaverse stack, you can start with the digital twin, building a rich digital model of anything physical or logical, whether it's assets, products, a complex environment spanning people, places, things, and their interactions. The digital twin is bound to the physical world in real-time so you can monitor the environment and collaborate within it using mixed reality. You can run simulations. You can apply AI to analyze and predict future states," said Microsoft CEO Satya Nadella.[24]

Epic games profits from their early metaverse by selling virtual goods such as outfits and dances. They're also pushing ahead into a full-fledged metaverse focused on their popular game, Fortnite. "What (metaverse-like technology) exists right now, it's based on algorithmic feeds that are driven by ad revenue, not a model," said Sima Sistani, whose company, *House Party*, was acquired by Epic, where she remains as head of community. "That instantly takes you into polarized worlds. If you are putting joy at the center of what you're doing, and not ads, and the goal is collaboration, the goal is fun, the goal is participating, making new friends, those are just super different incentives and motivations."[25]

Inside Fortnite, Epic hosted a series of several metaverse-like concerns. Ariana Grande performed in August 2021.[26] Her concert is difficult to describe but features a virtual Ariana Grande breaking through and flying through lights, then surfing over multicolored water into an arena that doesn't exist in the real world. As her music plays, she floats hanging from an umbrella in a multicolored universe with clouds shaped like hearts, leaping and twirling in ways that would be impossible in real life. Later, Grande wanders through space looking infinitely more stylish and lots more interesting than Zuckerberg, dancing with otherworldly planets below and stars above.

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[23] *United States Dept. of Housing & Urban Development v Facebook, Inc.* (Office of Administrative Law Judges March 28, 2019). https://www.hud.gov/sites/dfiles/Main/documents/HUD_v_Facebook.pdf.

[24] Nadella, S. (n.d.). *Microsoft Inspire 2021.* Microsoft. Retrieved 2021, from https://news.microsoft.com/wp-content/uploads/prod/2021/07/Microsoft-Inspire-2021-Satya-Nadella.pdf.

[25] Park, G. (2021, September 28). *Epic Games believes the Internet is broken. This Is their blueprint to fix it.* The Washington Post. Retrieved 2021, from https://www.washingtonpost.com/video-games/2021/09/28/epic-fortnite-metaverse-facebook/.

[26] Gamespot. (2021, August 6). *Fortnite X Ariana Grande Rift Tour Concert Gameplay.* YouTube. Retrieved 2021, from https://www.youtube.com/watch?v=k5EAPwXxcng.

About a million people watched the concert at any one time. While tickets were free, it's not hard to imagine better virtual "seats" being sold or maybe non-fungible tokens (NFTs), much like collectible merchandise from a traditional concert. It's more difficult to imagine how the worlds enabled by these technologies could fail to be profitable rather than the myriad ways creative strategists and marketers could use the technology to profit.

Roblox is also building metaverse technology with a simple but powerful programming environment where users, two-thirds of whom are 15 years old or younger, build and play in 3D virtual worlds. Besides the newer offerings, the best-known original metaverse, Second Life, still exists, though with far fewer users than in its heyday in the early aughts.[27]

The Public Speaks

Facebook did not enable comments about the announcement of the name change to Meta and its metaverse on their own pages despite comments being arguably the single most important component of Facebook after posts.[28] However, a glance at other social media helps explain their reluctance: reaction to Meta's push to build a metaverse can best be described as unenthusiastic.

A Twitter user, channeling what he believed Zuckerberg was saying, wrote: "Now that I've turned actual reality [into] a dystopian nightmare, I'm back to sell you a new virtual reality where everything is wonderful. Trust me!" Others were less kind. Another comment read: "Tired of meeting people in real life? Try our ad-supported metaverse where we connect pedophiles to children and hate-filled people to toxic streams of disinformation."[29]

Students, one of the core target audiences, were skeptical. When asked why Meta was focused on a metaverse, Damien Theriault, a second-year New Brunswick student, said: "Money. It's always about the money."[30] Others claim that Meta is co-opting various lesser-known metaverses. "They are essentially trying to build what many of us have been building for years, but rebranding it as their own," said Ryan Kappel.[31]

Several people were gentler but suggested Meta has work to do on their core products before launching any new ones. "I think we'd all prefer you all fixing and perfecting what you've already built before focusing on what's next. Lot of work needs to be done here. Far too much to divide your attention with some future project," said Twitter user Awale Ahmed Ali.[32] "Facebook's new

27   Tidy, J. (2021, November 5). *Zuckerberg's metaverse: Lessons from Second Life.* BBC News. Retrieved 2021, from https://www.bbc.com/news/technology-59180273.

28   *Welcome to Meta: Meta.* Facebook. Retrieved 2021, from https://about.facebook.com/meta/.

29   ThreeKnifeBomb (2021, October 28) Twitter. Retrieved 2021, from https://mobile.twitter.com/TheeKnifeBomb/status/1453773708313595904.

30   Campbell, C. (2021, November 7). *'It's always about more money': Students react to the metaverse.* The Aquinian. Retrieved 2021, from https://theaquinian.net/39387-2/.

31   English, V. O. A. L. (2021, November 3). *Early users of metaverse react to Facebook's new name.* VOA. Retrieved 2021, from https://learningenglish.voanews.com/a/early-users-of-metaverse-react-to-facebook-s-new-name/6295887.html.

32   Ali, A. A. (2021, October 28). Twitter. Retrieved 2021, from https://twitter.com/AwaleAhmedAli/status/1453798013210595332.

name is Meta," said CNN's Donnie O'Sullivan after the announced name change. "It still has all the same problems it had this morning."[33]

A smaller number of users were supportive. "People normally disrespect and FUD (spread Fear, Uncertainty, and Doubt) about other projects in which they are not invested because they think the money going to that one project isn't going to their project," wrote Twitter user SafeMoon. "People, there's so much money out there you can't even comprehend. There's lots of room for everyone."[34]

Expert opinion was more serious, and more ominous, citing research that parents should be especially wary of the new virtual reality metaverse. "Adults appear to control and regulate their [VR] presence experience by critically evaluating and monitoring the presented [virtual environment] stimuli… Children on the other hand did not, or at least to a greatly reduced extent," wrote the research team of Thomas Baumgartner, a neuroscientist at the University of Zurich.[35]

Others agree the metaverse has the potential to intensify already problematic child behaviors. "When compared to the non-immersive VR condition (watching…a television screen), children in VR showed a significant deficit in inhibitory control," wrote Stanford Professor Jeremy Bailenson in his virtual reality book, *Experience on Demand*. "How children react to media is of particular concern because their prefrontal cortex, the area that is associated with emotion and behavior regulation, is not completely developed. VR engulfs us…We slide occluding goggles over our eyes and cover our ears with headphones, overriding our two primary sense systems with simulated digital signals…VR is the apotheosis of every media fear and fantasy we've ever had."[36]

Another expert notes that virtual reality technology makes monitoring children's behaviors especially challenging. "It's already hard to monitor what your kids are doing, but at least you can look over their shoulder at a screen," said Michigan State University media professor Rabindra Ratan. "When they're in VR, they're blocked off, you can't really see what they're doing. Parents need to understand kids' games, what they're playing, why they're playing them, who they're playing them with. You have to be an informed consumer right along with them."[37]

Metaverse Technology

In his announcement of Meta, Zuckerberg focused quite a bit on metaverse technology and did not shy away from tech-related terminology. "Today we're introducing the presence platform, which is a broad range of perception and AI capabilities that empower developers to build mixed-reality experiences," Zuckerberg said. His use of the term "platform" could be interpreted to mean

[33]   Sblendorio, P. (2021, October 28). *Mark Zuckerberg mocked over Facebook name change to Meta.* NY Daily News. Retrieved 2021, from https://www.nydailynews.com/news/national/ny-facebook-name-change-meta-mark-zuckerberg-reaction-20211028-myfnr7lz6raszctds67cour63a-story.html.

[34]   Twitter. Retrieved 2021, from https://twitter.com/Safemoon_Babe/status/1458274963065028609.

[35]   Baumgartner, T., et al. (2008, 25 August). Feeling present in arousing virtual reality worlds: Prefrontal brain regions differentially orchestrate presence experience in adults and children. *Frontiers in Human Neuroscience, 2* Retrieved 2021, from https://www.frontiersin.org/articles/10.3389/neuro.09.008.2008/full.

[36]   Bailenson, J. (2019). *Experience on Demand: What Virtual Reality Is, How It Works, and What It Can Do.* New York: W. W. Norton & Company, Inc.

[37]   Strange, A. (2021, November 6). *What parents need to know about the coming metaverse.* Yahoo! Retrieved 2021, from https://www.yahoo.com/now/parents-know-coming-metaverse-120039314.html.

that the firm aims to create a metaverse of metaverses, a universe controlling traffic to metaverses much as Google controls search results.

Following on, he went into detail about the difficulty of programming virtual hands that mimic real-life hand movements and brought in the former head of Facebook Reality Lab and now Facebook Chief Technology Officer Andrew "Boz" Bosworth in his announcement video.[38]

"Realistic presence is the key to feeling connected in the metaverse," Bosworth says in the video. "Things like environmental understanding, content placement and persistence, voice interaction, standardized hand interactions. In fact, let's start with hands. The human hand is an engineering marvel. Bringing hands into VR was no easy feat… Today, we're introducing the Interaction SDK, a library of components that will make it easy to add hand interactions to your apps."

"That's pretty exciting!" answers Zuckerberg, using a definition of "exciting" that clearly targets software developers.

One of Zuckerberg's lead advisors on metaverses is Matthew Ball, a venture capitalist at EpyllionCo and former head of strategy at Amazon Studios. "I thought Matthew Ball's essays were great, and anyone who's trying to learn about [the Metaverse]… he wrote a nine-part piece on a bunch of the different aspects of what the metaverse could be, and I highly recommend all of them," Zuckerberg wrote. [39]

Ball argues a fully functional metaverse must have certain attributes.[40] It will:

1. Be persistent, an experience that never ends;

2. Be synchronous and live, a real-time community just like real life;

3. Scale indefinitely – a metaverse will support unlimited users, though regardless of the total number, individual users will each have their own sense of self, as in real life;

4. Include a fully functional economy;

5. Span across networks, much as the web itself is not tied to any single website; and

6. Offer "unprecedented interoperability" much like real life – a product acquired in one metaverse will work in an entirely unrelated one.

Charting Towards a Blue Ocean?

"What is your ultimate objective? As you know, we are all in this together, so you may share your thoughts with me."

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[38]   *Connect 2021: Our vision for the metaverse.* Facebook Technology. (n.d.). Retrieved 2021, from https://tech.fb.com/tag/frl/.
[39]   MatthewBall.vc. (n.d.). Retrieved 2021, from https://www.matthewball.vc/about.
[40]   Ball, M. (2021, November 7). *The metaverse: What it is, where to find it, and who will build it.* MatthewBall.vc. Retrieved 2021, from https://www.matthewball.vc/all/themetaverse.

[Hiro replies] "I'd prefer a little more discretion in this case…"
"Too late for that, Hiro," says another voice.

According to Ball, "Metaverses are a blue ocean opportunity.[41] Look at the classic categories that have been merged with the internet. They don't displace. Telecom, banking. In mobile, we see Venmo, Square, Stripe that are predominantly around mobile. Skype still exists but WhatsApp is much larger. In the metaverse, we see cryptocurrencies and Discord and Fortnite beginning to supplant traditional platforms. All those are larger than they've been because the economy grew so much. Those are new companies that emerged to found blue oceans.

"Developers are the one limitation where you do see more direct competition," Ball says, comparing the need for tech companies to attract developers to the need for movie studios to attract talent. "In Hollywood, we bid for creatives but don't necessarily compete for viewers… Better, faster, cheaper for developers will lead to better profits for developers. Devs always go to where the profitability is. Nobody invests in learning a language nobody speaks."

Questions

1. *Is Meta's metaverse on track to offer a leap in value to users, or is it more akin to technology innovation that advances technology without necessarily delivering a compelling leap in value for users? Explain your thinking.*
2. *Meta's vision has social, economic, and environmental implications. Enumerate what you see as the strengths and weaknesses of its metaverse across these dimensions and how to ameliorate some of the weaknesses or concerns to better link Meta's technology to a leap in value.*
3. *If Meta realizes its intention of creating one enormous metaverse, it will yield even greater political, social, and economic power for the business. Are there safety issues with one business holding this much control? How could this best be mitigated – a breakup of the business? government regulation? something else?*
4. *Matthew Ball argues that it is developers who will control the metaverse, the digital creators who will build what Meta hopes to be a blue ocean, a new market space that is a win for society and customers. Do you agree? Why or why not?*
5. *If Meta is committed to using less data for targeted advertising, as it claims, what might be its business model?*

Appendix A
Snow Crash

Amazon's *Snow Crash* page:
https://www.amazon.com/Snow-Crash-Neal-Stephenson-ebook/dp/B002RI9KAE/ref=sr_1_1

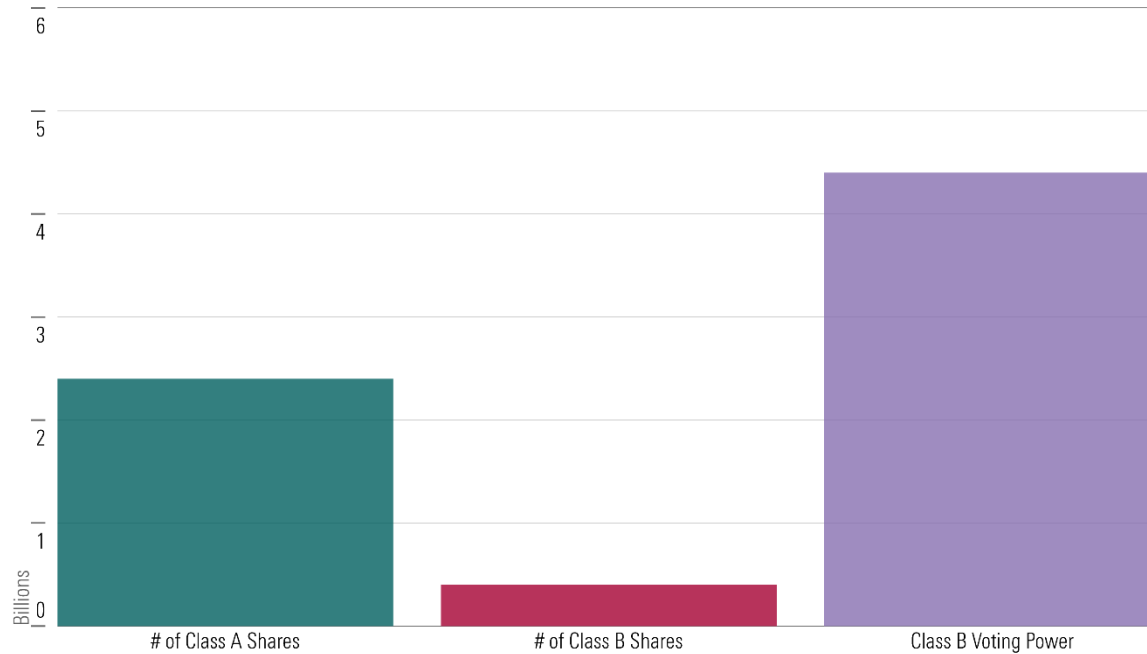[41]   Interview with Matthew Ball, Sept. 6, 2021.

"This Snow Crash thing--is it a virus, a drug, or a religion?"
Juanita shrugs. "What's the difference?"

The only relief from the sea of logos is within the well-guarded borders of the Burbclaves. Is it any wonder that most sane folks have forsaken the real world and chosen to live in the computer-generated universe of virtual reality?

In a major city, the size of a dozen Manhattans, is a domain of pleasures limited only by the imagination. But now a strange new computer virus called Snow Crash is striking down hackers everywhere, leaving an unlikely young pizza delivery man as humankind's last best hope.

The INSEAD
Blue Ocean
Strategy Institute

Appendix B
Facebook Class A and Class B Shares

Facebook Share Classes and Voting Power

Data as of September 30, 2021.

Source: Morningstar
https://www.morningstar.com/articles/1061237/how-facebook-silences-its-investors