In Focus

Gaming the System: Playbour, Production, Promotion, and the Metaverse

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ABSTRACT

As much as tech giants like Microsoft and Meta promote the metaverse as a new haven for social connection and enterprise, popular and academic presses credit the development of persistent virtual worlds that underlie the emerging space to digital gamemakers. This paper argues gaming's centrality to the metaverse, upon which its hardware, controls, distribution platforms, economic models, and even socio-cultural attributes rely. Building on research into early adopters of virtual reality, it examines a "playbor production system" that solidifies hardware and software providers in both immersive media and the metaverse's ecosystems by capitalizing on gamers' and enthusiasts' labor. The paper concludes that such models epitomize endemic concerns in the evolution of virtual worlds, economics, and technologies contingent upon imbalanced power structures between producers, providers, and consumers.

"Gaming is the most dynamic and exciting category in entertainment across all platforms today and will play a key role in the development of metaverse platforms" (*Microsoft to Acquire Activision Blizzard* 2022), stated Microsoft's Satya Nadella upon the tech giant's US$68.7 billion purchase of Activision Blizzard. His comments echo producers', media makers', and consumers' expectations that the metaverse will be built on games. Both popular (e.g., D'Anastasio, 2022) and academic (e.g., Chia 2022; Mystakidis 2022) presses recount gamemakers' contributions towards the actualization of this reinvigorated buzzword. Companies like Meta may promote the metaverse as a "three-dimensional virtual world where avatars engage in political, economic, social, and cultural activities" (Park & Kim 2022: 4211). However, their first related acquisition involved virtual reality (VR) company Oculus, which marketed its head-mounted displays (HMDs) to gamers (*Oculus Rift: Step Into the Game* 2012). Beyond aspirations, contemporary virtual worlds are mostly gaming havens.

In this paper, I advocate for gaming's centrality in the metaverse imaginary. There are deep connections between metaverses, massive multiplayer online games, and immersive media; they share tools like game engines (Foxman 2019), distribution platforms (Park & Kim 2022: 4224), hardware, controls, user bases, economic models, and socio-cultural attributes. General assessments of the metaverse recognize shared origins (e.g., Ball 2022) and how gaming's cultural baggage impacts affiliated technologies (e.g., Nakamura 2020). Nevertheless, businesses, public relations teams, and the press position the metaverse for social and utilitarian purposes, obfuscating how it builds from gaming norms and infrastructure.

To illustrate the impact of the interrelationship, I analyze the role of play and labor in metaversal production. Drawing from research into VR's early adopters,

I identify a "playbor production system" (Foxman 2018) that capitalizes on enthusiasts to solidify immersive media and the metaverse's viability. Hardware providers like Meta disseminate development kits (DKs) with which users familiar with applications advanced by game studios can toy with the technology and create content. Their free "playbour" (Kücklich 2005) not only permits entry into a nascent industry while creating loyal evangelists but also fixes hardware and software suppliers, along with their practices and ideologies, within the metaverse.

Finally, I note how this mode of production creeps into new realms dependent on "playborers." The business models fostered by game publishers, and present in proto-metaverses like *Roblox*, only exacerbate endemic concerns in developing virtual worlds, economies, and technologies contingent upon imbalanced relationships between producers, providers, and consumers.

THE METAVERSE IMAGINARY AND GAMING

Definitions of the metaverse often start with the term's inception in science-fiction like *Snow Crash* (e.g., Dwivedi *et al.,* 2022), which portrays a future where users' lives are played out almost exclusively online. While this may color public perception, the modern concept of the metaverse instead aims for persistent, immersive, interoperable virtual spaces with multiple synchronous users that enable "seamless embodied user communication in real-time and dynamic interactions with digital artifacts" (Mystakidis 2022). This requires the convergence of novel technologies and hardware, including HMDs and gestural controllers (e.g. Park & Kim 2022), along with infrastructural innovations like blockchain, artificial intelligence, and high-speed networks (e.g., Nevelsteen 2018). Software would overlay the technologies in an ecosystem of "portals" (Park & Kim 2022; Zyda 2022) populated with user-generated content, avatars, and virtual worlds (e.g., Dwivedi *et al.* 2022). Interoperability and standardization would allow assets and avatars to traverse ecosystems, inducing a stronger sense of presence, enabling commerce (Ratan & Lei 2021), and leading to extended stays with greater potential for social and economic exchanges.

Advocates envision the metaverse recasting an array of industries and institutions like fashion, education, and work (Park & Kim 2022). Such social- and enterprise-oriented use cases mirror Eglis-ton and Carter's "Oculus Imaginary" – a discursive blueprint of VR's future (2020). They contend that Meta promoted a self-interested version of immersive media that concentrated on social components, including connecting users and content creators through everyday activities, which would aid their monetization strategy of capturing user data. Meta applied the same frame to the metaverse especially because it is their aim to supply and maintain its underlying infrastructure (2022). The company's more socially driven imaginary seems to push gaming to the margins, despite its significant investment into the medium – including stocking an app store with copious game titles, purchasing studios, and marketing creator tools explicitly to make games.

However, metaverse histories often begin with text-based multi-user dungeons (MUDs), followed by virtual open-world expansion in the 1990s. The convergence around massively multiplayer online games ranging from *World of Warcraft* to *Second Life* served as a subsequent phase leading to more contemporary iterations (e.g., Wiederhold 2022). Games like *Roblox*, *Minecraft*, or *Fortnite* embody many principles of the metaverse, hosting rich graphical environments with millions of concurrent users who purchase virtual goods and services, but are neither interoperable nor persistent and therefore elicit less of a sense of coexistence that "would make users' social experience… more engaging and enjoyable" (Oh *et al.* 2022: 26). In other words, what differentiates modern examples from future versions is not how users interact, but rather, limitations to stand-

ardization between platforms. Companies like Nvidia, Epic, and Unity also promote their game production tools – Omniverse, Unreal, and Unity engines, respectively – for metaversal creation. Their marketing endorses neologistic concepts like "produsage" or "prosumption" (e.g., Chia, 2020); users do not passively consume, but rather, co-create online content and spaces. For all practical purposes, the metaverse's economy and infrastructure will be built on gaming and tech platforms with the capacity to sustain large online spaces; computing power will likely confine virtual worlds to a lobby and portals system that mimics contemporary games (Zyda 2022). The medium provides the metaverse's building blocks, which clarifies Nadella's statement and why other tech giants like Amazon, Google, and Meta invested heavily in it.

Gaming's influence on the metaverse's development carries vast implications, from perpetuating deficient avatar options that exclude particular races, genders, and body types (Phillips 2020), to relying on fans to produce, monetize, and consume content. Non-fungible tokens (NFTs) advertised by artists and brands easily correlate to in-game currencies and purchasable items from popular "free-to-play" titles like *League of Legends*. And despite efforts by businesses to discursively frame the metaverse around innovations and broader social purposes, the recognition of gaming by the popular press (e.g., Ball 2022; D'Anastasio 2022) and academics (e.g., Dwivedi *et al.* 2022; Wiederhold 2022) within the metaverse's global boom highlights how entertainment companies and players will spur economic and cultural opportunities, as well as pitfalls, in these thriving virtual spaces.

ON PLAYBOR AND PRODUCTION

How is the metaverse affected by inextricable ties to gaming? User-generated content (UGC) – a key component of web culture, from fanzines to product reviews – is a conspicuous example. Lobato et al. (2013) emphasize UGC's informality as it skirts around regulation and economic measurement. This murky status has polarized academic opinions on the effects of UGC: fans contribute to "participatory culture" by adding to, remixing, and reshaping their favorite media (e.g., Postigo 2010). However, worries persist concerning companies capitalizing on or exploiting user labor, even though users make content for reasons beyond economic value (e.g., Chia 2020; Fast *et al.* 2016). UGC takes many forms in gaming, from streaming playthroughs to "modding," or modifying titles utilizing developer-released code. Modding is entrenched in game production because it requires working with or around publishers' existing codebases along with a knowledge of everything from programming and asset creation to audio recording (Pereira & Bernardes 2021: 152). Consequently, "modders" tend to reproduce game development norms; Pereira and Bernardes describe how "passioned gamers find themselves having fun working as something akin to amateur software developers" (2021: 153) and adopt a surfeit of conventions from organizational structure to design philosophies. While it may provide a steppingstone to future employment, or at least low-cost beta testing, corporate abuse of modders is possible, as their investment of time and effort is rarely remunerated.

Such apprehension motivated Kücklich (2005) to conceive of "playbour" to describe modder activity. He argued that playbor capitalized on fan loyalty, added longevity and value to existing titles, provided a testing ground for new ideas, and served as a player recruitment tool. Playbor satisfied both corporate needs for innovation and modders' desire for "problem solving, hacking, self-expression and portfolio building" (van der Graaf 2017: 33). The concept has been critiqued for lacking clarity regarding the relationship between, and reasons for, labor and play (e.g., Chia 2020; Duffy 2017; Fast *et al.* 2016; Goldberg 2018). Chia, for instance, suggests that playbor does not "fully capture the productive relations" (2020: 52) between commercial and non-commercial activity, and argues that the voluntary nature of

"hobbies" better characterizes this type of post-Fordist work (*ibid*. 51). Fast et al. conceive a seven-part typology of unpaid laborers including "The Apprentice" and "The Hobbyist," who produce value for purposes that are not purely occupational or economic (2016: 966). These examples underscore how users are not blindly manipulated by gamemakers but "gladly exchange" their efforts for "pleasure" (Goldberg 2018: 44), the challenge, or sheer ambition, among other reasons. Industry strategies can satisfy the desires of consumers, hobbyists, and aspirational workers alike, which complicates worries about exploitation.

Regardless of user motivation, playbor sets conditions of power and control: the relationship of modders to gamemakers is one of limitations and workarounds, where publishers divulge a fraction of code in their programs, thereby establishing rules by which creators play while retaining intellectual property rights and profits. Playbor also contributes to cultural preconceptions about the industry. It reinforces precarious work environments, utilizing "the affect of love and social glamour" to make game production a "highly desirable job where work *looks* and *feels* more like play" (Bulut 2020: 33). The result is an environment where the expectations and efforts of an avocation translate seamlessly into work life (Keogh 2021: 34). Playbor advances an ideology which assumes that it is necessary (Abend *et al.* 2022: 6) to work excess hours for the love of its products in order to create content that only an exclusive audience can afford. Put simply, amateur "playborers" are invited by studios to participate in, and ultimately embrace, a system of production that capitalizes on passion.

Rather than thinking of these practices as distinct from the metaverse, they are being heavily ingrained into its formation, especially as modding has long been a "powerful force" (Ondrejka 2006: 164) for supplying content for virtual spaces. To illustrate, I return to previous research I conducted on the impact of playbor on one critical technological component of the metaverse: VR (Foxman 2018; 2019; 2022). While standalone experiences are not tied to specific titles the way modded content is, I found that not only did users playfully labor with immersive media, but a "playbor production system" (Foxman 2018) fueled innovation, diffusion. and consumer adoption. Industry leaders in the metaverse popularized commercial VR through a multilayered system (see **Figure 1**).

The system, like the evolving metaverse, begins with the hardware manufacturers that supplied the technological base – HMDs – as DKs for early users to experiment with before commercial release. Enthusiasts were expected to fashion the broader "ecosystem" of content. To achieve this, headsets became interoperable with tools favored by developers – a second layer of the system – for producing and marketing content. These included game engines and modeling software like Blender, and marked a departure from earlier attempts to commercialize VR when there was no similar "platformized" (Poell *et al.* 2021) environment of interoperable tools used to generate and disseminate material, and thus aligned with modding production norms (e.g., Pereira & Bernardes 2021). Distribution platforms and third-party marketplaces constituted the third layer; users created torrents of VR experiences, games, and tutorials that circulated through channels ranging from game stores (e.g., Steam) to asset stores (e.g., Unity), along with social media posts and videos.

Playbor governed the entire system. First, prevailing hardware and software specifications dictated how early users played with and understood the technology. Gamemakers not only established the rules or "boundaries" (Chia 2020; Lobato *et al.* 2013) by which VR enthusiasts could interact and understand what type of content was appropriate for the medium, but also provided the means for them to relate to and translate their activities to the wider industry (Chia 2020: 54). Because of the influence of studios, VR's potential was restricted to gaming; as of this writing, games, not social applications, comprise most available content.

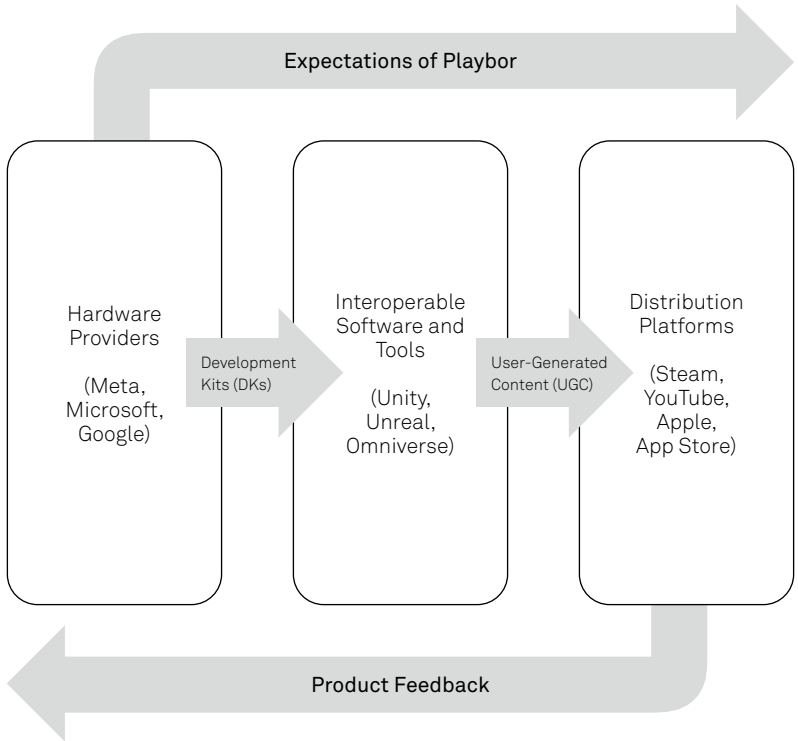


FIGURE 1. The main layers of the playbor production system in current iterations of the metaverse.

At the same time, the ease of use of compatible tools determined the type of person – the player – who might author content in the second layer. My interviewees, garnered mostly from enthusiast meetups, represented typical aspirants – predominantly avid, male, Caucasian gamers, of which 76 percent were creative workers from fields like digital games, film, and journalism. However, only a third worked in development, and the skills and time they devoted to the medium differed. While many hoped to acquire full-time jobs in VR, like game developers, reasons for their interest varied (e.g., Keogh 2021) – to have fun, learn about the headsets, expose their children to innovations, etc. Fueled by their passion about the medium's future, they committed incalculable unpaid hours after putting kids to bed (as they told me) to create experiences and assets. Those with the necessary expertise, not to mention time and capital, to manipulate the technology were primarily interested in making games. In other words, the playbor production system, like modding (Pereira & Bernardes, 2021), advantaged a niche group of players attracted to game development.

Finally, the hierarchy's third layer ensured that content immediately made its way to devoted consumers, benefiting playborers through public exposure. Early enthusiasts' games were VR's first market offerings because they were distributed through existing stores like Steam. Also, informal channels such as meetups, blog posts, and video tutorials were organized around utilizing game tools and best practices (e.g., Metry 2017). In this sense, VR adopters mirrored modders who posted to third-party forums (e.g., Pereira & Bernardes, 2021), and considered this a crucial ingredient in their creative process.

The outcome is an efficient feedback loop. Hardware manufacturers set conditions for production that attracted specific types of producers – game developers and enthusiasts – who then created content, lessons, and information on how to improve the hardware and formalize products. These early users' efforts also increased loyalty in relation to the providers *and* affiliated software. Ultimately, the playbor production system calcifies: the staunchest advocates develop hardware furnished by the most entrenched companies, eventually cementing the bedrock for future endeavors. It engenders and solidifies the actors and applications for the technology and ecosystem pertaining to VR, and prescribes ways new entrants must utilize the medium. This preserves the status quo of who, how, and what is produced for the devices rather than igniting change. And since many early adopters hailed from other fields like advertising or film, their acquiescence to the system means that gaming production norms are infiltrating other media professions.

PLAYBOR IN THE METAVERSE

Evidence of a playbor production system already appears in prototypical metaverses. Although initially marketed as a game, *Roblox* has 164 million users (Zyda 2022: 125), incorporates a technological framework comparable to the hypothetical metaverse (e.g., Park & Kim 2022), and contains fundamental ecosystem components such as a marketplace and UGC. The gamemaker offers an infrastructure to users in the form of the gaming platform, a currency for economic exchange (Robux), and a suite of tools (Roblox Studio) for developing content compatible with standard file types (e.g., fbx, obj). Users can be players and creators who make games, virtual assets, and clothing for avatars (among other options), which more passive consumers can use and purchase through a marketplace. Ample documentation shows how to develop content for *Roblox*, whose parent company makes money by collecting a percentage of Robux purchases, as well as through advertising and licensing agreements.

The system relies on the playbor of users at all stages of production: they are encouraged to learn the game, develop content, and market it to consumers. It also favors those familiar with gaming: "Roblox Studio" resembles game engines

and is built for making games rather than other content categories (understandably). Although the company partners with the likes of Gucci and Nike, and envisions itself as a "business communication" (Herrman & Browning 2021) platform, its primary user base is comprised of young, dedicated gamers.

The *Roblox* example underscores how play and games seem to provide "the most compelling functions associated with the 'metaverse,'" according to journalists (D'Anastasio 2022), including the development of virtual assets, immersive experiences, and digital commerce through platforms and playbor. Popular articles reinforce these components as foundational to the metaverse imaginary, and trumpet how content creators can "master the basics" (Infobae 2022) through their own (unpaid) efforts and eventually profit when the metaverse "takes off." Play and game-like behavior are important dynamics in this arrangement: "it is obvious that the gamification aspect of so many of the metaverse's realms makes a significant proportion of this value system emotional in nature" (van der Merwe 2021: 7). They provide a way for the type of labor common to game production to appear fun and worthwhile.

If a playbor production system persists, it provokes concerns about the metaverse's future. First, it solidifies regional platform providers through the advocacy and loyalty of early enthusiasts. It locks in norms through both user familiarity and through existing platforms and tools that are made to be interoperable. Game engines and similar software remain the go-to programs for contemporary media from architecture to live performances (Chia 2022: 193) and are only expanding in applicability as they build "the infrastructure for metaverses of future content" (*ibid*: 196). Second, it suggests that metaverse hardware, such as HMDs, and the companies that own them and the broader infrastructure (e.g., Google, Meta, and Microsoft in North America and Europe), will continue to be a dominant force. Emerging technologies will likely proliferate under the aegis of prevalent platform logics, subject to similar terms of service and security issues. Finally, the gaming ethos, and particularly ongoing cultural controversy over its toxicity and exclusivity (e.g., Consalvo & Paul 2019), will perpetuate in the metaverse, especially as the playbor production system relies on UGC. This portends far-reaching proliferation of the economic, social, and cultural imperatives of entrenched actors driving digital game-making in the metaverse, and enables those who want "in" to generate new content and products based on gaming practices and passions all the while recreating the problematic conditions inherent to the industry. Gaming will inextricably frame not only the metaverse's infrastructure but also the attitudes surrounding current and future iterations.

CONCLUSION

The promise of the metaverse is ambitious when imagining its impact on web culture. Even so, its core and the ecosystem developing around it have been defined by games and their affiliated tools, content, technologies, and infrastructures. As seen through the lens of playbor, early users exude energy and enthusiasm at the ground floor of an increasingly commercialized space. However, these playborers are self-selecting and uniquely able to translate their skills into a new frontier, as witnessed with VR and *Roblox*. As they toil, they also support a production system based on gaming that exacerbates concerns about exploitation and access. The game industry is replete with "haves" and "have-nots"; only a few are privileged enough to gain full entry, while most tend to be brushed aside to play or have fun as they develop UGC. Meanwhile, this elite group will likely set the metaverse's economic and cultural parameters for present and future generations. Game-like aspects within it are already wide-ranging, from the cryptocurrency market's fluctuations that resemble those studied in virtual worlds (e.g., Castronova *et al*. 2009), to issues of exclusivity, access, and toxicity, as reported in case studies (Basu 2021). At the same

time, vestiges of gaming could spill over to the metaverse – for instance, assumptions about appropriate content; controllers and interfaces designed for gamers; and supply chain issues stemming from the release cycles of major consoles.

If the "ecosystem" of the metaverse is built on gaming, it will pervade the suite of innovations that are its backbone. Just as immersive media relies on playbor for its sustenance, similar modes of devotion and excess labor in the name of fun will infiltrate the metaverse's collateral technologies as it commoditizes; blockchain, artificial intelligence, and even computer vision, as well as the broader internet of things, bank on laborers working with DKs to fulfill their destinies. Ultimately, the major beneficiary will be an industry growing in influence and profit at the expense of alternative thinking about the metaverse.

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