

# Towards a Responsible Metaverse

## Digital Fashion, Avatars, and the Promise of Identity in Virtual Worlds

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### INTRODUCTION

In March 2022, the first digital fashion week was held in DECENTRALAND. This Metaverse Fashion Week (MVFw) drew 108,000 unique visitors across the four days on the decentralized platform and included wearables by Selfridges and other brands.<sup>1</sup> One digital collection that premiered at the event was Disco Drip by Dolce&Gabbana. Branded by anthropomorphic, cat-like avatars, this fashion line features futurist bomber jackets and balloon shirts with wild animal patterns and accessories. Disco Drip is a colorful splash into the Metaverse. Users can buy these exclusive items as NFTs (non-fungible tokens) on the platform Open Sea. This type of “tokenized fashion,” driven by blockchain, offers new ways of owning and investing in digital fashion. However, just like the offline counterpart of high fashion, it is a luxury product for the select few. The most expensive outfit of the collection, Blue Angel, sells for 6.9 ether or 11.560,89 euro (April 24, 2023).

A new wave of designers is reimagining fashion as a digital space. This development of digital fashion (also known as virtual fashion) involves the creation of garments or designs with digital tools. Designers use games, apps, blockchain, and virtual influencers to design and monetize their pieces. What was once a tactile

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1 Cf. Shirdan, Lyon: “Metaverse Fashion Week Was a Promising Prototype for the Future. Here’s Why,” *Entrepreneur*, May 11, 2022, <https://www.entrepreneur.com/living/metaverse-fashion-week-was-a-promising-prototype-for-the/424308>

and material sector is now extending into new platforms. The development of digital fashion is intimately related to ideas about digital identity and the visions of tech companies regarding the Metaverse. This development refers to a technology that combines different platforms but also acts as an umbrella term for widely diverse virtual worlds that integrate different functions. Companies such as Epic and Facebook envision a unique Metaverse, which blends online and offline spaces, bodies, and identities. Users navigate these worlds with their avatars, which represent who they are, what they own, and who they aspire to be. As in fashion's offline counterpart, digital clothing can be a medium to signal identity in a complex world. As a result, a new visual culture is forming, and perhaps even an entirely new posthuman aesthetic.

A good example of these developments is the digital fashion created by Auroboros, which often has a dreamy and celestial quality. Auroboros specializes in fashion for different platforms. Their Biomimicry Digital Collection contains outfits inspired by nature. One of their digital dresses, the futuristic Venus Trap Dress, has countless silver spikes reminiscent of the dangerous, carnivorous plant.<sup>2</sup> Many of these digital collections are presented as groundbreaking and innovative. However, digital fashion has a long history in virtual worlds and games such as *SECOND LIFE* and *THE SIMS*. Players design beautiful outfits and skins and share these on virtual marketplaces. In *WORLD OF WARCRAFT*, for instance, players sell exclusive outfits and avatars. In 2007, a Rogue character in *WORLD OF WARCRAFT* with premium gear sold for 7,000 Euros.<sup>3</sup> Edward Castronova already described the rich in-game economies of virtual worlds in 2006, when leveled-up characters and exclusive items were sold for premium prizes. Castronova writes: "eBay's Category 1654, Internet Games, attracts millions of dollars annually in trade for virtual swords, virtual houses, virtual money."<sup>4</sup> In other words, virtual economies have been booming for decades now.

These economies revolve around trade as well. Shareability is part of the attraction of digital fashion, but these economies should be fair and fun as well. Castronova already suggested in 2006: "Several worlds might find it advisable, for example, to allow users to transfer assets among worlds in their consortium,

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2 Cf. auro.boros: "@kungfukennii shapeshifts into an ancient deity wearing the #Venus-trap Dress and #Nymph Bag from our #Biomimicrydigital collection!" *Instagram*, February 15, 2022, <https://www.instagram.com/p/CaAS-9dNWog/>

3 Cf. Miller, Ross: "WoW Character Sells for Nearly \$10,000," *Engadget*, September 17, 2007, <https://www.engadget.com/2007-09-17-wow-character-sells-for-nearly-10-000.html>

4 Castronova, Edward: *Synthetic Worlds: The Business and Culture of Online Games*. Chicago, IL: University Of Chicago Press 2006, p. 122.

including avatar capital. Ideas like this have already been proposed by some start-ups, such as PlayVault and the Gaming Open Market.”<sup>5</sup> Nearly twenty years later, the notion of assets circulating from platform to platform is fundamental to many Metaverse visions and aspirations. This is one reason why many brands and platforms team up with blockchain applications since they promise ownership and tradability of these assets in the form of tokens.

In this chapter, I explore how digital fashion allows us to express our digital identity in new ways. This screenwear is an extension of our identity, as users spend more and more of their time online. Dresses and apparel can be designed in radically new ways in the Metaverse. New textures, moving dresses, different shapes, alien bodies, and digital fashion do not have to abide by the laws of nature and gravity. The dress *Iridescence* by The Fabricant, for instance, flows freely and shines brightly in ways that no physical outfit can.<sup>6</sup> Digital fashion also has inclusive potential since it can be separated from our physical bodies. Any type of avatar can wear pixel outfits, from real-life models to animals and aliens. This posthuman conceptualization is inspiring. Think of the virtual influencer Zlu (@iam\_zlu on Instagram), who is a blue alien with silver textures, modeling for different fashion brands.

Digital fashion opens us up to new ways of being and forms of embodiment. The construction of our avatars is a kind of digital cosplay that relates to performance and dress-up, as well as the construction of a virtual identity overall. Aesthetics, social, technical, and economic worlds come together here.<sup>7</sup> However, this datafication and monetization of our identity and assets is also problematic. It is intimately connected to platformization, or “the rise of the platform as the dominant infrastructural and economic model of the social web and its consequences, in its historical context.”<sup>8</sup> The platformization of fashion specifically circulates, constructs, and monetizes our digital bodies in new ways in online worlds and systems.

As this chapter shows, virtual fashion opens possibilities to explore our identity in new ways, but can also set boundaries. The business models behind digital fashion, in particular tokenized fashion, are not neutral. I conclude that designing

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5 Ibid., p. 143.

6 Cf. The Fabricant: “Iridescence,” *The Fabricant*, April 24, 2023, <https://www.thefabricant.com/iridescence>

7 Cf. Banks, Jaime: *Avatar, Assembled: The Social and Technical Anatomy of Digital Bodies*. Bern: Peter Lang 2017.

8 Helmond, Anne: “The Platformization of the Web: Making Web Data Platform Ready,” *Social Media + Society* 2, no. 1 (2015).

these choices in a responsible way is possible, but only through purposeful intervention and co-creation.

## DIGITAL FASHION

Digital fashion can be created in different ways, especially in the Metaverse. A first way of doing this is by letting users design their own outfits and skins. This is what *THE SIMS* stands out in and what *SECOND LIFE* already specialized in since the beginning of the platform in 2000. Entire user cultures and fashion markets can emerge, with users commonly setting their own prizes. Other digital fashion is purposely designed by brands and designers. Metaverse fashion commonly follows this strategy. Furthermore, these fashion pieces can be developed in collaboration with brands and Metaverse applications. This can be done in different ways as well. First, brands can design entirely new digital designs that cut across platforms. In 2021, Gucci designed a digital pair of sneakers called The Gucci Virtual 25. These neon-colored green-pink sneakers are designed in collaboration with AR company Wanna and can be worn in their app as well as in ROBLOX and VR CHAT.<sup>9</sup> The sneakers were quite affordable compared to the brand's regular pricing and ranged from \$8.99 to \$12.99, depending on the app in which they were purchased.

Avatar creation tools, such as BITMOJI or READY PLAYER ME, also collaborate with existing brands to create Metaverse fashion. Adidas, for instance, created Ozworld avatars in collaboration with READY PLAYER ME as “a unique offering generated based on individual personalities rather than physical appearances.”<sup>10</sup> The pieces could be embedded in VR chat, Somnium Space, and many other digital spaces. Consumers could create and claim their avatars on ozworld.adidas.com after answering a set of questions about themselves. The campaign launched in parallel with the physical Ozworld collection and was also part of its branding.

Brands can also team up with Metaverse applications. Ralph Lauren has partnered with FORTNITE to create a fashion collection. As stated in *Vogue Business*: “The US brand has designed in-game clothing for FORTNITE that will feature the

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9 Cf. Hahn, Jennifer: “Gucci Releases First Virtual Sneaker that Can Only be Worn in Digital Environments,” *Dezeen*, March 19, 2021 <https://www.dezeen.com/2021/03/19/virtual-25-gucci-wanna-digital-sneaker/>

10 Marcinkowski, Daniel: “adidas Originals bring Ozworld avatars to Ready Player Me,” *Blog Ready Player Me*, April 15, 2022, <https://blog.readyplayer.me/adidas-originals-oz-world-3d-avatars-metaverse/>

brand's polo player sitting atop FORTNITE's llama logo on digital fashion pieces including two 'Polo 1991' jumpsuits. Physical merch including sweaters and polo shirts, some with the reimagined logo and others inspired by digital skins on FORTNITE."<sup>11</sup> The collection is as sporty as the brand itself and mediates its classic products.

FORTNITE's Ralph Lauren collection is an affordable one. Its digital pieces are sold for the equivalent of circa \$10, while the physical pieces range from \$59.50 to \$188. This matches the game, its in-game pricing and economy, and its appeal to younger audiences and their spending. As stated in recent FORTNITE statistics, around 85% of its players are aged 18 to 35.<sup>12</sup> High-end fashion that might be out of reach for these consumers in real life can become more accessible in games where it has lower pricing.

Finally, digital fashion can be tokenized and certified on a blockchain. Since digital fashion is usually unique and scarce, the tokens used are often NFTs. They are essentially unique digital items certified on the blockchain. "Non-fungible" means that these items are unique, cannot be interchanged, and can't be replaced. The NFT itself is best understood as its history and proof of ownership, which is stored on a blockchain, such as Ethereum. NFTs are tokens that are different from cryptocurrency, which is "fungible." In other words, each Bitcoin or each Ether is the same. An NFT is not a literal crypto token or valuation but rather represents the item, assets, or commodity on the blockchain. An NFT is special, authentic, and permanently stored on the blockchain. Compare it to a unique Pokémon card or a digital artwork that only you have the rights to. The value comes from how this piece circulates and if there is a demand for it. Unlike cryptocurrency, which is similar to money, the NFT is more similar to a contract that certifies a unique artwork.

In other words, NFTs allow for the tokenization of fashion. It allows us to validate and certify unique designs as unique digital assets. For example, Nike released a collection of virtual sneakers called Cryptokicks. It consisted of 20,000 virtual sneakers certified as NFTs. One sneaker, designed by the Japanese artist

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11 Schulz, Madeleine: "Ralph Lauren Partners with Fortnite to Create First Phygital Fashion Collection," *Vogue Business*, October 31, 2022, <https://www.voguebusiness.com/technology/ralph-lauren-partners-with-fortnite-to-create-first-phygital-fashion-collection>

12 Cf. Iqbal, Mansoor: "Fortnite Usage and Revenue Statistics (2023)," *Business of Apps*, January 9, 2023, <https://www.businessofapps.com/data/fortnite-statistics/#:~:text=Sources%3A%20Eurogamer-,Fortnite%20age%20demographics,their%20age%20to%20get%20access>

Takashi Murakami, made the news when it was bought for \$134,000.<sup>13</sup> The Design Museum Den Bosch writes about this sneaker collection and its potential to carry the sneakers across different platforms in the Metaverse.<sup>14</sup> This results in unique digital merchandise, targeting fans of a story world or brand. DC, for instance, launched a Metaverse where you can own unique Batman fashion (“Bat Cows”) and play in an extended universe.<sup>15</sup> The Metaverse creates a new culture, not just around brands but around their consumers and loyal fans. In these new business models, fans are not just audiences and participants but co-owners of a brand and part of an ecosystem. These Bat Cows are not just fashion or an asset but a key to unlocking completely new experiences. The larger promise behind NFTs is that audiences become part of a journey with content creators. In DC’s Metaverse, fans are not only consumers but owners, investors, and virtual collectors.

The carbon footprint of NFTs, however, is a concern when considering the use of this technology. While tokenized fashion offers the possibility of trading and certifying designs, not each application is sustainable yet. The Digiconomist tracks the energy consumption of Bitcoin, for instance. One transaction is equivalent to “61,748 hours of watching YouTube.”<sup>16</sup> However, many blockchain companies work hard to green their technologies. Ethereum’s energy consumption has been dramatically reduced, for instance. Blockchain news outlet *Decrypt* reports: “Ethereum’s estimated annual CO2 emissions have dropped from over 11 million tons to just under 870—less than the combined total of 100 average American homes, per the EPA.”<sup>17</sup> More sustainable ways to design this technology exist, and companies are increasingly working towards this.

Moreover, the rise of digital assets also raises questions about access, security, and user practices. While tokens seem like a safe way to store and certify digital assets, they are intimately connected to specific tools, such as wallets. Notorious

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13 Cf. Van Boom, Daniel: “These Nike NFT ‘Cryptokicks’ Sneakers Sold For \$130K,” *CNET*, April 28, 2022, <https://www.cnet.com/personal-finance/crypto/these-nike-nft-cryptokicks-sneakers-sold-for-130k/>

14 Cf. Design Museum: “NFTs of Virtual Sneakers,” *Design Museum*, August 30, 2022, <https://designmuseum.nl/en/derde-verdieping/sneakers/nfts-of-virtual-sneakers/>

15 Cf. DC NFT Universe: “Start Your Journey into the DC Universe,” *DC NFT Universe*, April 25, 2023, <https://nft.dcuniverse.com/splash>

16 Digiconomist: “Bitcoin Energy Consumption,” *Digiconomist*, November 11, 2023, <https://digiconomist.net/bitcoin-energy-consumption>

17 Hayward, Andrew: “Ethereum Energy Usage, Carbon Footprint Down 99.99% After Merge: Report,” *Decrypt*, September 15, 2022, <https://decrypt.co/109848/ethereum-energy-carbon-footprint-down-99-percent-merge>

is the story of programmer Stefan Thomas, who lost the password to his crypto wallet which contains about \$220 million. He still has two guesses left until the wallet is locked indefinitely.<sup>18</sup> Around 23% of cryptocurrency is estimated to be in locked or otherwise stranded wallets. Users can technically lose access to their digital assets altogether.

*Figure 1: Author avatar in Ready Player Me*



Source: Screenshot by N. Lamerichs

Finally, the market around NFTs and tokens is characterized by its high volatility and high price fluctuations. This is largely due to the scarcity of some tokens, their liquidity, and hype cycles. However, centralized virtual worlds can also prone be subjected to economic crashes. Think of *HABBO HOTEL*, where an update led to a mass trade-off where countless users lost value, and the entire economy crashed.<sup>19</sup>

18 Cf. Popper, Nathaniel: “Lost Passwords Lock Millionaires Out of Their Bitcoin Fortunes,” *The New York Times*, January 12, 2021, <https://www.nytimes.com/2021/01/12/technology/bitcoin-passwords-wallets-fortunes.html>

19 Cf. Drapkin, Aaron: “The Cursed Demise of Habbo Hotel,” *Wired*, February 6, 2021, <https://www.wired.co.uk/article/habbo-hotel-update-chaos>

Just like investing in offline luxury goods, the digital fashion market fluctuates. However, there is an additional component to NFTs, which is related to the platforms, services, and tokens potentially crashing or fading out. Assets can be entirely lost when a virtual world or token collapses, which adds an additional dimension of risk when investing in digital fashion.

## OTHERWORLDLY FASHION AND IDENTITY PLAY

Digital fashion can exist with or without a real-life counterpart. Some designers focus exclusively on the virtual market, such as the digital fashion house The Fabricant, based in Amsterdam. They made the first fashion NFT, which was worn by Johanna Jaskowska and sold on the Ethereum blockchain for an equivalent of \$9,500.<sup>20</sup> The Fabricant creates unique collections and uses digital tools to their advantage. In collaboration with virtual shoe designer RTFKT, they designed a gender-fluid fashion line, inspired by the Renaissance, called RenaiXance. The Fabricant describes their collection as follows: “The collection includes 9 NFTs, each rich with their own folklore, based on gaming characters but remixing their aesthetic to correspond to The Fabricant’s ‘Pluriform’ design philosophy. Our belief is that fashion should be fluid and genderless—in the digital terrain we can express multiple selves and identities.”<sup>21</sup>

While the collection aims to be genderless, the names seem to be references to male avatars, such as the Hero look and the Kratos look, which seems to refer to Kratos from GOD OF WAR. The designs, meanwhile, have long skirts, crop tops, and dresses with different pieces of armor and chainmail. Masculine and feminine are blended, but only to an extent. The vision of The Fabricant is to create a new language in digital fashion: “The real value of 3D is that it enables us to be way more creative and to create situations that we haven’t previously seen, which allows for this new aesthetic language; a new way of expressing our creativity that really speaks to young, digitally savvy audiences,” CEO Kerry Murphy told *Vogue*.<sup>22</sup>

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20 Cf. The Fabricant: “Iridescence,” *The Fabricant*, November 11, 2023, <https://www.thefabricant.com/iridescence>

21 The Fabricant: “RenaiXance,” *The Fabricant*, April 24, 2023, <https://www.thefabricant.com/rtfkt>

22 Cf. Heng, Emily: “Digital Fashion House The Fabricant Paves the Way for More Innovation within the Metaverse,” *Vogue*, April 12, 2022, <https://vogue.sg/the-fabricant-metaverse-funding/>



Digital fashion houses and fashion designers are steadily emerging, and many of them are focused on creating pieces for the Metaverse. An interesting initiative is IKON-1 by Nick Knight, one of the world's leading fashion photographers. Knight has always had a passion for the digital and 3D. He recently did a big NFT drop with model and Instagram star Jazelle or @Uglyworldwide.<sup>23</sup> The digital artworks feature not only digital fashion but also make-up, hair, and more, created by over 40 innovators and curated by Knight and Jazelle. These assets resulted in 8,000 one-of-a-kind artworks, which Jazelle has also prominently showcased on her Instagram account. Each design is unique, outspoken, and often highly futuristic. Some feature Jazelle as a quasi-cyborg, completely covered in a gold bodysuit, while other designs are almost Victorian-inspired, full of ruffles and laces.

Digital fashion can push the boundaries of the real world. Inspired by digital subcultures and visions of the posthuman, it can enhance our bodies in new ways. The art of Harriet Davey, for example, embraces an otherworldly aesthetic through a non-binary alien avatar.<sup>24</sup> Rather than a digital equivalent or mediation, digital fashion can be a new aesthetic and language. It has the potential to be a fully new medium and style in its own right. Separated from offline constructs such as gravity, gender, bodies, and known textures, digital fashion can be something completely different. It can be cutting-edge, innovative, and wild. These products can blend costumes, animation, crypto, and gaming. Through the combination of these technologies, genres, and styles, digital fashion reaches new heights and inclusive potential.

What digital fashion stimulates is identity play. It allows users to represent themselves in innovative ways on different virtual platforms. In ideal cases, fashion is a tool for immersion, possibilities, and experimentation. Think of VRCHAT as a place where different people can meet with purposefully designed avatars. It's a space full of user-driven entertainment with a dedicated global player community. VRCHAT allows users to play with a wide range of identities and identity markers, from cat ears and anime hairdos to exotic skin colors. This identity play within VRCHAT is depicted well in the HBO Max documentary *We Met in Virtual*

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23 Cf. Waite, Thom: "Nick Knight is Building a 'New Civilisation' in the Metaverse," *Dazed Digital*, November 17, 2022, <https://www.dazeddigital.com/art-photography/article/57464/1/nick-knight-building-a-new-civilisation-in-the-metaverse-ugly-worldwide-ikon-1>

24 Cf. Simpson, Ashley: "Meet Harriet Davey, The 3D Artist Embracing Otherworldly Forms," *Goat*, April 24, 2023, <https://www.goat.com/editorial/harriet-davey-artist-interview>

*Reality*.<sup>25</sup> Unique avatars meet and create long-lasting friendships in the VR application, where they truly feel that they can be themselves. VRCHAT has also given a range to new performances and celebrities. Virtual idols use VRCHAT for virtual concerts and exclusive fan events. Others become virtual influencers by streaming their VRCHAT content, for instance, on YouTube, and profile themselves as virtual YouTubers (“VTubers”).

Online and offline identities are also cleverly combined in Hikky’s Virtual Market, a massive online event and market that contains many different virtual pavilions. Some locations are inspired by real spaces, such as a virtual Akihabara, while others are imagined spaces, for instance, inspired by stories. Hikky’s Virtual Market collaborates with existing properties for these markets, such as Disney, as well as brands such as JR East and Yamaha.<sup>26</sup> These VR worlds are detailed, aesthetically pleasing, and lively compared to the “dead malls” that many Western tools have to offer. Personal identity, customization, and worldbuilding are key. Without these options, personal assets and fashion are meaningless. They need to contribute to our virtual identity, which reflects our actual desires and performances in our current consumption society. This customization stands in stark contrast with the vision of Meta and its tool, META HORIZON WORLDS, which presents the Metaverse in close connection with one’s actual identity and body. The truth is that many users do not want to simply be themselves in the Metaverse but experiment and play with how they represent themselves.

What the Metaverse offers is a possibility to unlock new virtual experiences, spaces, and identities. This closely connects to ownership, the idea that users themselves are in control of these assets, including their virtual bodies, land, and fashion. Ideally, users should even be able to trade these in an economy that they co-create. However, currently, the fashion that users create is still often at the mercy of platforms. This is problematic because the market can be completely determined by Big Tech companies, which essentially determine the supply and demand of items in these virtual worlds. Different worlds have different mindsets and approaches to digital items and their ownership, which vary from abundance to extreme scarcity. This, in turn, will impact these virtual worlds and entire user cultures. In the coming years, we will see different Metaverses being created, which will compete on these different ideas and values. Some Metaverses may be entirely user-driven, while others set limits to virtual bodies and fashion. The latter will be shaped by what’s on offer and will create fixed identities through generic

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25 Hunting, Joe: *WE MET IN VIRTUAL REALITY*. HBO Max 2022.

26 Cf. Virtual Market: “About Virtual Market,” *Vket*, April 24, 2023, <https://vket6.v-market.work/en/about>

templates and skins. The Metaverse can be a game changer for our virtual economy if users are put more in the driving seat and are rewarded for their activities. What would that look like?

## RESPONSIBLE METAVERSE DESIGN

Digital fashion is intimately connected to digital identity. As digital identity becomes more important and a supplement to other realities, we need to critically question the design of Metaverses and in which Metaverse we will participate. Within media studies, we should stay alert to the design of these worlds. A good example is DECENTRALAND, a decentralized Metaverse that has often been criticized, amongst others, in the video essay *The Future is A Dead Mall—Decentraland and the Metaverse* by YouTube critic Dan Olson.<sup>27</sup> He describes it as a monumental failure as a “platform for socialization, for commerce, and for gaming,” as he takes users through a lengthy documentary of its false promises, bugs, and poor game design. DECENTRALAND promises players their own digital land and assets to monetize, but in practice, it does not go beyond what early virtual worlds could do. It sells players an idea, but in reality, it is barely populated and poorly designed.

For many Big Tech companies, the Metaverse is the next step in the platform economy. Companies such as Meta even directly claim the term for their marketing and strategies. This should worry us. Platforms already cause different structural problems because they are essentially walled gardens in terms of items and ownership.<sup>28</sup> A worst-case scenario is that the Metaverse becomes a highly privatized place (a gated community, as it were) and entirely driven by ads. LEGO and Epic Games have even teamed up to develop a Metaverse for kids, which has possibilities but also raises questions concerning pedagogy, ethics, and safety.<sup>29</sup> Such a Metaverse tool for children has to be a site of creativity, play and co-design, but

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27 Cf. Folding Ideas: “The Future is A Dead Mall—Decentraland and the Metaverse.” *Folding Ideas*. March 27, 2022, YouTube video, 01:49:21, <https://www.youtube.com/watch?v=EiZhdPLXZ8Q>

28 Cf. Gillespie, Tarleton: *Custodians of the Internet: Platforms, Content Moderation, and the Hidden Decisions That Shape Social Media*. New Haven, CT: Yale University Press 2018.

29 Cf. Whitehead, Thomas: “LEGO x Epic Games Announced, Planning A ‘Metaverse’ For Kids,” *Nintendo Life*, April 7, 2022, <https://www.nintendolife.com/news/2022/04/lego-x-epic-games-announced-planning-a-metaverse-for-kids>

surely it has to be designed in a responsible way. This approach should be mindful of three design principles.

Firstly, Metaverse applications can be an economy, but such an economy needs to be designed in a safe, trustworthy, and transparent way. When users invest in digital assets, there should be clear protection, guidelines and clarity around these technologies. This would require certain markets, such as NFTs, to be regulated further. Digital fashion can be an asset and an investment, but this would mean more gatekeeping to limit the volatility of these markets.

Secondly, Metaverse applications can take on many forms, as demonstrated in this chapter. A Metaverse does not have to be a centralized economy in the hands of large business conglomerates. There are other business models and designs that could possibly foster a responsible Metaverse. The proto-Metaverse *SECOND LIFE* is an independent economy by default, for instance, and user-driven by design. There are no advertisements, for instance, since that does not meet the vision of its designers. What this example teaches us is that the Metaverse can be open-source, user-driven, and bottom-up. This economy and its assets do not have to be designed by companies or brands but can be user driven. The Metaverse has been here for decades and thrived when users themselves developed their own levels, outfits, avatars, and content. If a marketplace is created, leave it to users to determine what these assets are worth.

Finally, Metaverse applications work best when they offer users enough freedom. Allowing enough agency for users to experiment with play and identity is key when designing a responsible Metaverse. As the history of virtual worlds and games tells us, the Metaverse will most likely not be one place. It will almost certainly be a set of pocket worlds with different micro-economies and islands. It will thrive by connections and meaningful places where the activity of users should be central. A responsible Metaverse provides enough affordances for users to create their own spaces, identities, and meaning, in line with *SECOND LIFE* and many other virtual worlds. It should unlock new experiences that are exciting and different rather than replicate reality. There is the problematic assumption, amongst others by Meta, that users want to be themselves in the Metaverse, and just augment that with VR. *VRCHAT* and other successful worlds show us that we love to experiment with our identity. Scholarship on avatars also confirms this need to experiment and be different.<sup>30</sup> A wide range of fashion options and character creation tools can truly facilitate users in any game, app, or virtual world. This can drive diversity and inclusivity.

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30 J. Banks: *Avatar, Assembled*.

Designing a responsible Metaverse is possible, but it needs to take into account user practices, agency and trust.

## CONCLUSION

In this post-digital society, our notion of identity and assets is shifting. As virtual identity becomes more important, so do the virtual assets that are related to our avatars. Digital fashion in the Metaverse delivers on these promises but is also restricted by what platforms and designers can offer. As this chapter has shown, digital fashion is also increasingly a market on its own, which some brands value very highly, while others put no price on it. We need Metaverse applications that are sensitive to the needs of different users, which allow them to create their own fashion and assets and allow users to set their own prices in these virtual economies and markets.

Fashion is a representative case of what the Metaverse can offer, but also of its tensions. If designers simply reproduce reality and provide users with few options for customization, it hinders the creation of an inclusive virtual society. The platformization of digital fashion reveals that this fashion is increasingly designed by large companies and brands rather than by users. However, users have many tools at their disposal to create their own fashion, avatars, and performances. Digital fashion in some virtual worlds is still largely a user practice of modding and skinning. Can fashion be even more democratized and shared in virtual worlds, or will it only be monetized by large players? In the coming years, this tension between platforms and users will persist with different virtual worlds skewing one way or the other.

One thing is certain, though. We need to move towards a human-centered design of the Metaverse that empowers users to show their unique styles and identities. The age of the Metaverse should be the age of the user, not the company.

## LITERATURE

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