



The Metaverse

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Author’s Note: “The Metaverse” will be a frequent subject of future legal technology writings. For that reason, I prepared this primer to give readers a basic background to appreciate those coming articles. Do not be fooled by mere comparisons to immersive video games. For the time being, however, put on your virtual reality goggles, head-mounted display and audio system, and hand- and body-tracking controllers, and enjoy your upcoming travels as you escape reality and cross over into the Metaverse.

Writing this technology article about the Metaverse seems like déjà vu all over again because of a 2016 article I wrote titled “#AI, #VR, and #IoT Are Coming to a Courthouse Near You!”¹ The abbreviations in that title refer to artificial intelligence (#AI), Internet of Things (#IoT), and virtual reality (#VR). One

of the several issues discussed in that article is providing jurors with virtual reality headsets, allowing them to virtually view an accident site or crime scene, walk around, or be guided through a 3D world to examine vital details of the scene. Well, the Metaverse takes that concept much further.

The term “Metaverse” did not come about as a brilliant byproduct of the 2021 marketing undertaking by Facebook changing its name to “Meta” and strategy to transform itself from a social media company to “a metaverse company.”² (Trivia note: Another company named Meta is now suing Meta (formerly Facebook) over the use of the name.) “Metaverse” first appeared in the 1992 best-selling sci-fi novel *Snow Crash*. The characters in the book were persons whose digital avatars traveled in a computer-generated, three-dimensional virtual universe

called the Metaverse. Later, a 2011 best-selling book entitled *Ready Player One* provided readers with an entertaining and gripping storyline that vividly portrayed the concept of the Metaverse. That book resulted in an even more popular 2018 movie by the same name produced by Steven Spielberg.

Despite the vivid storyline portrayals in those books and the Spielberg movie, the Metaverse does not yet exist, and there are different opinions about the ultimate concept of the Metaverse. For instance, will there be a single Metaverse controlled by one giant tech company? Would such a situation implicate antitrust laws? Will there be multiple Metaverse platforms, each operated by a different owner? If so, will the principles of interoperability apply, that is, will your digital persona and possessions be transferable between Metaverse platforms?

Metaverse Technologies

I will discuss below a few technologies that are considered likely building blocks for the future Metaverse. However, a more comprehensive description of those technologies and others can be found in a Congressional Research Publication titled *The Metaverse: Concepts and Issues for Congress*.³ The technologies described below provide a good starting point for developing an appreciation for the future Metaverse.

Augmented reality (AR) is the most basic of the Metaverse technologies. AR enhances a user's perception of physical reality. AR technologies enable the overlay of computer-generated content onto physical world objects. Users access AR functions by use of video monitors, smartphones or tablets with cameras, or special see-through AR glasses or headsets. The level of augmentation can vary from a simple informational display to the addition of virtual objects.

AR technology displays information or objects in a user's real-world environment. For example, smartphone users have experienced basic AR in mobile games and apps, such as Pokémon GO, which allows mobile devices with a global positioning system (GPS) to locate and collect virtual Pokémon creatures. The app allows users to search for the creatures at specific GPS locations at which the creatures would appear on the user's mobile screen as if they were in the user's real-world location. Other augmented reality apps enable shoppers to visualize eyeglasses on their faces or furniture in their homes before deciding on the purchase. Another example of AR that appears on the television screen in most broadcasts of college and professional football games is the first-down yellow line, the black line of scrimmage, and a line that marks the beginning range of the field goal kicker.

An even more exotic example of AR occurred in 2020 when surgeons at Johns Hopkins performed AR surgeries using headsets with a see-through eye display. As the surgeons viewed the patient through their headsets, they also saw projected images of the patient's internal anatomy, such as bones and other tissue, based on CT scans. Some writers described this process as essentially giving the surgeons X-ray

vision.⁴ AR has been used for several years to train medical students in certain basic surgeries, including blood clot removal and orthopedic shoulder replacement.

Virtual reality (VR) technology exists today. It provides an immersive, 3D, computer-generated artificial environment, replicating either the real world or an imaginary world. In a VR environment, a user may interact from the user's perspective or as an avatar. A user's hardware for a VR experience requires a head-mounted visual display. Also, it may include an audio system, hand-held controllers, gloves, and other body sensors and movement-tracking hardware.

Mixed reality (MR) users not only see 3D images; they also interact with the 3D virtual objects, touching and moving them around. This addition of virtual objects within a real-world environment creates a hybrid environment where digital and physical elements co-exist. Within MR, a user can touch, feel, and manipulate digital objects. MR requires input technologies that can capture a user's head, hand, finger, and other body movements and provide haptic feedback to the user through the body sensors.

And finally, extended reality (XR) is a term commonly used interchangeably when referring to AR and MR. XR is an environment beyond the VR experience of merely seeing and traveling around the computer-generated environment. It includes seeing or sensing physical interaction with virtual images.

What Is the Metaverse?

The Metaverse is a rapidly evolving idea. Describing the Metaverse in 2023 is akin to explaining air or space travel to residents of the horse and buggy era. From our personal experience, every year, we see new technological advancements that a decade before would have seemed like science fiction.

The Metaverse has been referred to as the Three-Dimensional (3D) Internet and the future of the Internet. My description of the future Metaverse, distilled from numerous opinions by others, involves a digital universe (which may be real-world or imagined images) that your avatar enters to interact with other avatars. An avatar is a

digital representation of a person or creature that can be customized to look like its user.

In the Metaverse, an avatar may join other avatars at a digital office to perform real-life work or go to a digital amusement park, a stadium for a ball game or entertainment event, a club for a social night out, or any other event that might occur in your real or imagined life. An avatar may purchase digital products, including clothes for its use or as gifts for other avatars, purchase digital land, buy or build a digital home, and host planned and impromptu gatherings with other avatars.

To access the Metaverse, the user needs a computer programmed to access the computer-generated environment, a head-mounted visual display or goggles to see the virtual environment, an audio headset, and hand- and body-tracking, motion-detecting controllers and sensors to provide a sense of touch and feel while traveling within the environment.

Coming Attractions of Legal and Practical Issues in the Metaverse

The Metaverse will bring about many legal and practical issues for which there may be little guidance in the way of existing standards and precedence.

If you are still reading this article and have not been exhausted by the above descriptions of Metaverse technologies, we can briefly flag some of the legal and practical issues likely to arise in the Metaverse.



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Currency/Purchasing/Disruption of Digital Assets

What digital currency will be used in the Metaverse to purchase digital products—a cryptocurrency such as Bitcoin, a credit or debit card, PayPal, Cash App, or Venmo? What are the sales and income tax implications? Is the user taxed in the real world or the virtual world? Because the Metaverse, avatars, and all Metaverse goods and property will be nothing more than computer data, to what extent can a successful cyberattack disrupt Metaverse operations or restrict users' access to their avatar or digital possessions? Who has access to that data, and what are the privacy protections? How does one prove ownership of digital goods or property purchased in the Metaverse? With apologies to my readers for dropping down into the weeds, is all this dependent on blockchain technology and non-fungible tokens (NFTs)?

A non-fungible token is a one-of-a-kind digital identifier. “Non-fungible” means that it cannot be replaced with something else. Because of its use of blockchain technology, a non-fungible token is self-authenticating. Each NFT contains all the information related to the creator, ownership, and authentication of that NFT. There is no separate title document or certificate of authenticity. Currently, NFTs are used to create and authenticate ownership of digital assets such as trading cards of elite athletes and other notables, wearing apparel, music, video clips, virtual real estate, photographs, and more. Lastly, what is the remedy if there is dissatisfaction with virtual goods or property purchased in the Metaverse?

Identity Theft/Trademark Infringement

If you decide that your personal avatar should look like an existing real-life person,

say Tom Cruise or Beyonce, or if you are smitten with the looks of an avatar created by someone else in the Metaverse, what are your risks of incurring an identity theft violation? Entertainment stars and elite athletes have been very successful in their real-world lawsuits for unauthorized use of their likenesses. Will they have a remedy when their likeness is misappropriated in the Metaverse? I see no reason to expect a different result in the Metaverse. Moreover, I expect the same result as with identity theft cases. I expect trademark owners such as Amazon, Walmart, Nike, Gucci, Vera Wang, and Costco to pursue every available remedy to enforce their property rights.

Criminal Conduct

Another major issue concerns the legal limits of conduct in the Metaverse and identifying the enforcement authority. What is the remedy if one avatar engages in cyberbullying or commits other criminal conduct against other avatars? This is not a far-fetched issue. There are frequent complaints about such behavior on social media platforms. In fact, there exist a concerning number of reported cases of online harassment. Roblox, a gaming platform, filed a lawsuit against one of its content creators alleging that he engaged in harassing behavior against other users. In another instance, a beta tester for Horizon Worlds, a VR platform owned by Meta, alleged that her avatar had been groped by a stranger.⁵

Loss, Theft, or Damage of Digital Property

If an avatar is destroyed or disappears into the ether, does the avatar's ownership of digital goods and property revert to the user? How and where are such transfers recorded? Which jurisdiction's

laws apply—the law of the Metaverse or the jurisdiction in which the user resides? And to what extent will Metaverse explorers have recourse for theft, unauthorized use, or destruction of their digital property?

Final Thoughts

The Metaverse does not yet exist, but its ultimate scope is constrained only by the limits of human imagination. Whatever its future evolution, the Metaverse will bring about substantial legal and practical issues, which numerous experts have started to consider.

Lastly, as these legal issues arise during the Wild West development of the Metaverse, to what extent will the legal and judicial professions revise and revamp the ABA Model Rules of Professional Conduct and the ABA Model Code of Judicial Conduct to address the legal and judicial professions' duties of competence to address these unique issues? ■

Endnotes

1. Herbert Dixon, *#AI, #VR, and #IoT Are Coming to a Courthouse Near You!*, 55 JUDGES' J., no. 4, Fall 2016, at 37, <https://bit.ly/3ZGkgtL>.
2. Kari Paul, “Live in the Future”: Zuckerberg Unveils Company Overhaul amid Shift to Metaverse, THE GUARDIAN (Feb. 15, 2022), <https://bit.ly/3XFPdMJ>.
3. LING ZHU, CONG. RSCH. SERV., THE METAVERSE: CONCEPTS AND ISSUES FOR CONGRESS, REP. R47224 (Aug. 26, 2022), <https://bit.ly/3XIZAj0>.
4. Johns Hopkins Performs Its First Augmented Reality Surgeries in Patients, JOHNS HOPKINS MED. (Feb. 16, 2021), <https://bit.ly/3wFLDgu> (published in NEUROLOGIC, Winter 2021, at 3).
5. Tom Ara, Mark Radcliffe, Michael Fluhr & Katherine Imp, *Exploring the Metaverse: What Laws Will Apply?*, DLA PIPER (Feb. 22, 2022), <https://bit.ly/3iOZAiy>.