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CRIMES WITHOUT CONSEQUENCES: EXPLORING THE METAVERSE AS A CRIMINAL FRONTIER

❖ Note ❖

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I. INTRODUCTION

A conception of digital worlds in the form of virtual and augmented realities has been a science-fiction vision since the 20th century.¹ As of 2023, that vision has become more than just a reality.² Established tech giants like Meta and Google are already taking the next step in developing the “metaverse”—a universal platform promising a fully immersive real-life experience within a network of multiple virtual worlds.³ Theoretically, the metaverse will allow users, or their “avatars,” to live, work, and socialize as they would in the real world.⁴ Casual users may think of it as a “digital playground;” others may see potential business opportunities.⁵ Ideas of its use are limitless and exciting,⁶ and the metaverse hype seems more than deserving.

However, this exciting prospect brings forth a dangerously overshadowed issue: violent crimes.⁷ With the creation of an entirely new world that may inevitably become a part of many people’s lives, opportunities to commit violent crimes with ease will undoubtedly arise.⁸ The question is whether developers will recognize them as legitimate crimes in the first place, as it is technically the avatars that are being harmed, not the user.⁹ If a user’s avatar violently assaults another’s so as to intentionally cause severe emotional distress, should the crime be treated how it

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¹ See generally Linda Tucci, *What Is the Metaverse? An Explanation and In-depth Guide*, TECHTARGET (Nov. 18, 2022), <https://www.techtargget.com/whatis/feature/The-metaverse-explained-Everything-you-need-to-know>.

² See Hall Koss, *What Is the Metaverse, Really?*, BUILTIN (Oct. 6, 2022), <https://builtin.com/media-gaming/what-is-metaverse>.

³ Tucci, *supra* note 1.

⁴ *Id.*

⁵ *What Is the Metaverse?*, MCKINSEY & CO. (Aug. 17, 2022), https://www.mckinsey.com/featured-insights/mckinsey-explainers/what-is-the-metaverse#.

⁶ *Id.*

⁷ See Pin Lean Lau, *The Metaverse: Three Legal Issues We Need to Address*, CONVERSATION (Feb. 1, 2022, 9:44 AM), <https://theconversation.com/the-metaverse-three-legal-issues-we-need-to-address-175891>.

⁸ See *id.*

⁹ See Ben C. Cheong, *Avatars in the Metaverse: Potential Legal Issues and Remedies*, 3 INT’L CYBERSECURITY L. REV. 467, 472 (2022).

would be if it occurred in the real world?¹⁰ If not, how would such implications affect the development and success of the metaverse?

This note argues that the current legal framework falls short in sufficiently addressing the issues of violent crimes in the metaverse and will further explore the potential repercussions this may have on businesses. Part II provides a background on the progressive development and success of the metaverse and sheds light on past occurrences of violent crimes within existing virtual platforms. Part III analyzes how the current legal framework may regulate these crimes, as well as how such inadequacy may affect the metaverse business. Lastly, Part IV discusses pragmatic solutions that developers can employ to proactively address this issue.

II. BACKGROUND

A. Evolution of the Virtual World

Before the emergence of the metaverse, virtual reality (“VR”) technology had already established itself as a prominent form of virtual worlds.¹¹ Unlike augmented reality, VR creates an interactive, three-dimensional world accessed through goggles and headsets.¹² Depending on the specific platform and its intended purpose, users can move around and engage with the virtual environment as if in the real world.¹³ Most VR technologies are popular for their entertainment uses; however, they have increasingly been utilized for other purposes such as education, professional training, architecture, and healthcare.¹⁴ One of the key features of VR is the ability to design a computer-generated environment tailored for its intended use.¹⁵ The virtual space is fictional and does not necessarily have to reflect the real world.¹⁶ For instance, VirTra assists law enforcement agencies in training their personnel through simulated scenarios, while other platforms like Glue and Arthur may provide exclusive virtual spaces for users to hold business conferences.¹⁷

In contrast, the metaverse uses the elements of immersive technologies along with a handful of others to create an advanced virtual simulation that closely resembles the real world.¹⁸ Users are represented by their personal avatars and, in a way, form a new identity through these avatars.¹⁹ They can socially interact with each other, conduct business, engage in recreational activities, and more.²⁰ Often referred to as the next version of the Internet, the metaverse will operate in real-time in an open virtual environment, with its own unique infrastructure to support it.²¹ The critical difference would be its three-dimensional capabilities; otherwise, the metaverse would be no different from the regular Internet.²² The ideal, envisioned metaverse would be as large

¹⁰ See Lau, *supra* note 7.

¹¹ See Mark A. Lemley & Eugene Volokh, *Law, Virtual Reality, and Augmented Reality*, 166 U. PA. L. REV. 1051, 1054–56 (2018).

¹² *Id.* at 1055.

¹³ *Id.*

¹⁴ Sophie Thompson, *VR Applications: 23 Industries Using Virtual Reality*, VIRTUALSPEECH (Mar. 1, 2022), <https://virtualspeech.com/blog/vr-applications>.

¹⁵ See *id.*

¹⁶ Lemley & Volokh, *supra* note 11, at 1064.

¹⁷ Thompson, *supra* note 14.

¹⁸ See generally Fabio Muioli, *The Metaverse: Don't Confuse It with Virtual Reality*, FORBES (Aug. 11, 2022, 6:45 AM), <https://www.forbes.com/sites/forbestechcouncil/2022/08/11/the-metaverse-dont-confuse-it-with-virtual-reality>.

¹⁹ See Tucci, *supra* note 1.

²⁰ See *id.*

²¹ See Koss, *supra* note 2.

²² *Id.*

and diverse as the real world, and available around the clock.²³ Currently, there is no fully-realized version of the metaverse, but certain sophisticated VR platforms like Horizon Worlds are being labeled as its early-stage form.²⁴

B. *What Investors See in the Metaverse*

In 2022, metaverse businesses had a market size of \$93.9 billion that was predicted to grow 40% per year through 2030.²⁵ Bloomberg analysts forecasted that the entire metaverse market—social media ads, tech services, live entertainment, etc.—would reach \$800 billion by 2024, and Citigroup analysts expected that it would reach \$13 trillion by 2030.²⁶

Tech giants and major businesses hope to use the metaverse as a medium to transform the global economy.²⁷ For instance, the immersive technologies would allow for a revolutionary consumer experience where people can test drive cars before making a purchase, all at the comfort at their homes.²⁸ Nvidia claimed that the metaverse would “create economies of scale that had the potential to dwarf the current economy itself.”²⁹ Although the metaverse’s development is still in an early phase, tech giants have been attracted to its potential to become the world’s next greatest innovation.³⁰

C. *Violent Crimes in Virtual Reality*

Violent activities through VR technologies are not unheard of.³¹ Meta’s own version of its metaverse, Horizon Worlds, is known for such issues.³² In one instance, a researcher wanted to study user behavior on the platform.³³ Within an hour of entering the virtual space, her avatar was sexually harassed and raped by multiple male avatars.³⁴ Despite the incident occurring in virtual reality, the researcher reported feeling disoriented when assaulted.³⁵ When the aggressors touched her, the researcher’s controller would vibrate to cause a “physical sensation that was a result of what she was experiencing online.”³⁶ Another metaverse researcher was virtually raped by three to four male avatars in Horizon Worlds—within sixty seconds of joining.³⁷ After verbally and sexually

²³ *Id.*

²⁴ See Kashmir Hill, *This Is Life in the Metaverse*, N.Y. TIMES (Oct. 7, 2022), <https://www.nytimes.com/2022/10/07/technology/metaverse-facebook-horizon-worlds.html>.

²⁵ Takashi Miura, *Seven Keys to Success in the Metaverse*, EY (Nov. 25, 2022), https://www.ey.com/en_jp/tmt/seven-key-elements-for-companies-to-develop-metaverse-business.

²⁶ Afiq Fitri, *Virtual Worlds, Real Money: Why Big Business Is Investing in the Metaverse*, TECH MONITOR (Jun. 14, 2022, 4:05 PM), <https://techmonitor.ai/technology/emerging-technology/metaverse-mergers-acquisitions-investing-virtual>.

²⁷ *See id.*

²⁸ *See Demystifying the Metaverse*, PWC, <https://www.pwc.com/us/en/tech-effect/emerging-tech/demystifying-the-metaverse.html> (last visited Apr. 18, 2023).

²⁹ *See Fitri, supra* note 26.

³⁰ *See Miura, supra* note 25.

³¹ *See generally* David Hoppe, *Eleven Crimes that Occur in Virtual Reality*, GAMMA LAW (Oct. 7, 2019), <https://gammalaw.com/eleven-crimes-that-occur-in-virtual-reality/>.

³² *See Researcher’s Avatar Sexually Assaulted on the Metaverse*, KNEWS (May 30, 2022, 4:04 PM), <https://knews.kathimerini.com.cy/en/business/researcher-s-avatar-sexually-assaulted-on-the-metaverse>.

³³ *Id.*

³⁴ *Id.*

³⁵ *Id.*

³⁶ *Id.*

³⁷ Nina Patel, *Reality or Fiction?*, MEDIUM (Dec. 21, 2021), <https://medium.com/kabuni/fiction-vs-non-fiction-98aa0098f3b0>.

harassing the researcher, the male avatars proceeded to rape her while taking photos.³⁸ The researcher described her experience as “surreal” and “a nightmare,” and “in some capacity, . . . [her] physiological and psychological response was as though it happened in reality.”³⁹

Crimes in the forms of physical assault and battery can occur in the metaverse in a similar manner.⁴⁰ Murder cases are yet to be recognized; in most platforms that allow “death” of a user’s avatar, the avatar is programmed to respawn and this would usually be accepted as part of the platform’s intended experience.⁴¹ There is also the underlying question of whether metaverse developers will even consider or find the need to create a “death” feature for current and future projects.⁴² However, the issue has resurfaced in the global context as the metaverse continues to advance in sophistication.⁴³ The World Economic Forum, an international organization dedicated to addressing major economic and social issues worldwide, has facilitated discussions among politicians and business leaders on the question of whether “murder” committed within the metaverse—should the feature exist—can be prosecutable under the law.⁴⁴ The United Nations has also been urged to establish “international safety standards for the metaverse,” imposing penalties not only for murder but violent crimes in general committed within the metaverse.⁴⁵

III. ANALYSIS

A. Legal Challenges of Regulating Crimes Within the Metaverse

No established legal framework exists that specifically protects users in the metaverse—or the virtual world in general—from violent crimes.⁴⁶ Although there have been statutes implemented to protect individuals from cyberbullying and online harassment, the criminal law is yet to make a presence.⁴⁷

Difficult challenges exist when proving and measuring the bodily harm caused by violent crimes in the metaverse.⁴⁸ One critical example is homicide, which would always require the death of an individual.⁴⁹ In the metaverse, virtual murder results in the death of the avatar, not the user.⁵⁰ It would be extremely difficult to convict the user for homicide when the victim has not in fact been physically harmed in the real world.⁵¹ Instead, such crimes can first be viewed as “speech or

³⁸ *Id.*

³⁹ *Id.*

⁴⁰ See Patel, *supra* note 37.

⁴¹ See Tristan Greene, *The UAE’s AI Minister Wants ‘Murder’ in the Metaverse to be a Real Crime*, NEXT WEB (May 26, 2022, 7:54 PM), <https://thenextweb.com/news/uae-ai-minister-wants-murder-metaverse-real-crime>.

⁴² See *id.*

⁴³ See Sam Shead, *Serious Crime in the Metaverse Should Be Outlawed by the U.N., UAE Minister Says*, CNBC (May 25, 2022, 10:51 AM), <https://www.cnbc.com/2022/05/25/metaverse-murders-need-to-be-policed-says-uae-tech-minister.html>.

⁴⁴ See *id.*

⁴⁵ *Id.*

⁴⁶ See generally Christopher Eberhart, *Metaverse Experts Reveal if You Can Murder in VR – And Whether You Can Be Punished*, N.Y. POST (Apr. 10, 2022), <https://nypost.com/2022/04/10/metaverse-experts-reveal-if-you-can-murder-in-virtual-world/>.

⁴⁷ See Alex M. Samaei, *The Tort Implications of Sexual Assault in Virtual Reality*, SUFFOLK J. HIGH TECH. L. (Dec. 31, 2016), <https://sites.suffolk.edu/jhtl/2016/12/31/the-tort-implications-of-sexual-assault-in-virtual-reality/>.

⁴⁸ See Cheong, *supra* note 9, at 482–83.

⁴⁹ See Ryan Esparza, *“The Way I Felt”: Creating a Model Statute to Address Sexual Offenses Which Utilize Virtual Reality*, 4 CRIM. L. PRAC. 25, 32 (2018).

⁵⁰ *Id.*

⁵¹ See *id.* at 32–33.

expression; less as physical act against a person.”⁵² By evaluating the circumstances that surround a virtual criminal incident, the law would decide whether such speech or expression is protected or not.⁵³ In many cases, emotionally distressing or outrageous speech in the virtual world can be protected by the First Amendment.⁵⁴ However, speech that contains legitimate intent and threat to cause harm to an individual is unprotected.⁵⁵ It would be up to the courts to determine which categories a virtual violent conduct would fall under, and whether the criminal law would favor the latter view in the future is yet to be determined.

Current laws on violent sexual crimes may also seem insufficient to extend jurisdiction to the virtual world.⁵⁶ The definitions of sexual crimes vary by jurisdiction, but they generally share a similar legal framework.⁵⁷ In Illinois, criminal sexual abuse requires an act of sexual conduct, which must involve physical contact between the abuser and victim.⁵⁸ Although contact may occur inside the metaverse, it would be digital, between the avatars.⁵⁹ Some VR technology allows the users to physically feel what their avatars are feeling, but such technology is still under development and far from prevalent.⁶⁰ Furthermore, “there is a long way to go before the force exerted could be considered an intentional touch by another user,” meaning that physical sensation through VR technologies may not suffice as physical contact as described in criminal statutes.⁶¹

However, other areas of law have the potential to address this issue.⁶² Because of the interactive and immersive nature of the metaverse, users are highly likely to experience emotional distress from violent crimes.⁶³ Stanford University’s Virtual Human Interaction Lab found that “the same areas of the human brain light up when you have a virtual reality experience as a person does during real world experiences,” indicating that users can experience the same emotional distress in the metaverse as they would in the real world.⁶⁴

With this regard, users may find a claim for intentional infliction of emotional distress (“IIED”), although proving emotional distress from the metaverse may still present unique challenges.⁶⁵ Whether metaverse conduct would be considered extreme or outrageous is debatable, because however violent and aggressive it may be, the conduct would be targeted at the user’s avatar and thus have unclear legal implications.⁶⁶ Anonymity in the virtual space is also another issue to be addressed; if the perpetrator-avatar is an untraceable anonymous user, there can be no legal action to be pursued.⁶⁷

Whether a person can sue a perpetrator for IIED in the metaverse is still a controversial legal issue, and this is not surprising considering that the emergence of a sophisticated virtual world

⁵² Eberhart, *supra* note 46; *see also* Esparza, *supra* note 49, at 30–31.

⁵³ *See* Eberhart, *supra* note 46.

⁵⁴ Esparza, *supra* note 49, at 30–31; *see also* U.S. CONST. amend. I (protecting the constitutional rights of freedom of speech).

⁵⁵ Esparza, *supra* note 49, at 30–31.

⁵⁶ *See id.* at 31–33.

⁵⁷ *See id.*

⁵⁸ 720 Ill. Comp. Stat § 5/11-1.20 (2016).

⁵⁹ Gaurav Sarkar, *Why ‘Groping’ Someone in Virtual Reality is Counted as ‘Sexual’ Assault*, FEDERAL (Dec. 24, 2021), <https://thefederal.com/features/sexual-harassment-is-no-joke-on-internet/>.

⁶⁰ Samaei, *supra* note 47.

⁶¹ *Id.*

⁶² *See id.*

⁶³ *See id.*

⁶⁴ *Id.*

⁶⁵ *See id.*

⁶⁶ *See* Esparza, *supra* note 49, at 31.

⁶⁷ *See id.* at 33–34.

like the metaverse is relatively new.⁶⁸ However, this area of tort law brings a unique perspective on the convergence of law and virtual violent crimes.⁶⁹ An IIED argument is a “loophole” that addresses the real-life consequences of crimes instead of directly challenging the actual crime in the metaverse, and thus could set forth an example for the emergence of criminal law in the future.⁷⁰

B. Avatars and “Personhood”

Criminal laws were made to protect real people, not avatars.⁷¹ For an avatar to be protected from violent crimes by law, they must be attributed with “personhood”—the quality of being a human individual—to be covered under the law.⁷²

An attributable legal persona—which requires personhood—for avatars remains a controversial debate at this time.⁷³ This is because avatars are virtual representations of individuals.⁷⁴ While they can be programmed to express some degree of human-like behavior, emotions, and personality traits, they are ultimately controlled by their users or creators.⁷⁵ Like other forms of advanced technology, avatars are often viewed as tools controlled and created by humans that can be used to facilitate communication and interaction between people; however, they do not have the autonomy or consciousness necessary to be considered as legal persons in the same way as real human individuals.⁷⁶

One of the primary arguments supporting personhood for avatars is their role in representing real-world individuals, making them extensions of their identity.⁷⁷ This is in contrast to an analogous idea that it is impossible to obtain two social security numbers to maintain two different identities.⁷⁸ Avatars can be perceived as possessing personal identities, often customized by users to mirror their real-life counterparts.⁷⁹ These avatars assume significant importance as extensions of users’ identities, representing them in virtual realms and allowing them to interact with others in a way that they may not be able to in the physical world.⁸⁰

In the past, it would have been difficult to argue this way; avatars had limited purpose for their existence as they were most commonly used in video games, restricted VR experiences, and online social platforms.⁸¹ This unsophistication has enforced the existing fine line that separates avatars from real humans.

However, the metaverse has the potential to break this line, or at the least draw another.⁸² While avatars in virtual worlds and online gaming environments can take the form of two or three-dimensional representations that mimic basic human movements and expressions, we can expect avatars to do much more in the metaverse.⁸³ A highly possible advancement to avatar technology is

⁶⁸ See Samaci, *supra* note 47.

⁶⁹ See *id.*

⁷⁰ See *id.*; see also Esparza, *supra* note 47, at 30–33.

⁷¹ Eberhart, *supra* note 46.

⁷² See Cheong, *supra* note 9, at 471–89.

⁷³ See *id.* at 470.

⁷⁴ See *id.* at 469–70, 477–80.

⁷⁵ See *id.* at 477–80.

⁷⁶ See *id.*

⁷⁷ Llewellyn J. Gibbons, *Law and the Emotive Avatar*, 11 VANDERBILT J. ENT. & TECH. 899, 905 (2009).

⁷⁸ See generally *id.*

⁷⁹ See *id.* at 909, 913.

⁸⁰ See *id.* at 905, 913.

⁸¹ See Esparza, *supra* note 47, at 26; see also Eberhart, *supra* note 46.

⁸² See Esparza, *supra* note 47, at 26.

⁸³ See Cheong, *supra* note 9, at 469–74.

interoperability.⁸⁴ As the metaverse becomes more interconnected, a single avatar could be designed to represent users across all forms of the metaverse.⁸⁵ This would provide users with the opportunity to establish a stronger connection with their avatars that could transition to adequate legal representation in the future.⁸⁶

C. Developer Concerns

Failure to address violent crimes may potentially cause metaverse developers to lose their supporters in the long run.⁸⁷

Victims of these crimes have continuously voiced their concerns about safety within the metaverse.⁸⁸ Without adequate regulations to address this issue, safety concerns may impede its user-friendliness and user base.⁸⁹ The idea that “misuse of [VR technologies] could cause more realistic harm [against users] with little consequence to the perpetrator” may deter widespread adoption.⁹⁰ Several metaverse platforms are already seeing a decrease in their user base.⁹¹ Meta’s Horizon Worlds aimed to reach half a million users by the end of 2022, but that number sunk to 300,000 active users. The reported decrease is said to stem from various factors unrelated to the present matter,⁹² but given the growing number of incidents of violent crimes, it is plausible to suggest that these unregulated crimes could play a more critical role in the future.

Many tech, media, and telecom (“TMT”) executives are unsure whether to further invest in the metaverse—or invest at all if they have not yet.⁹³ They acknowledge its potential, but the majority is still hesitant about making huge investments into something that shows a “lack of proven success.”⁹⁴ On the surface, the metaverse must address its “lack of technology to support experiences, high cost of development, and dearth of appropriate employee skills.”⁹⁵ With continued progression, virtual crimes and regulation may become another alarming concern that piles on to these investors because of its possible effect on the metaverse’s user base.

⁸⁴ Dean Takahashi, *Will Interoperable Avatars be Essential for the Open Metaverse?*, VENTUREBEAT (Apr. 2, 2023, 8:45 AM), <https://venturebeat.com/games/will-interoperable-avatars-be-essential-for-the-open-metaverse-timmu-toke/>.

⁸⁵ *Id.*

⁸⁶ *See id.*

⁸⁷ *See generally* Andrew Chow, *A Year Ago, Facebook Pivoted to the Metaverse. Was It Worth It?*, TIME (Oct. 27, 2022, 3:59 PM), <https://time.com/6225617/facebook-metaverse-anniversary-vr/>; Yinka Bokinni, *A Barrage of Assault, Racism, and Rape Jokes: My Nightmare Trip Into the Metaverse*, GUARDIAN (Apr. 25, 2022, 6:54 AM), <https://www.theguardian.com/tv-and-radio/2022/apr/25/a-barrage-of-assault-racism-and-jokes-my-nightmare-trip-into-the-metaverse>; *see also* Cheong, *supra* note 9, at 493.

⁸⁸ *See generally* Patel, *supra* note 37.

⁸⁹ *See* Landry Signé & Hanna Dooley, *A Proactive Approach Toward Addressing the Challenges of the Metaverse*, BROOKINGS INSTITUTION (Jul. 21, 2022), <https://www.brookings.edu/techstream/a-proactive-approach-toward-addressing-the-challenges-of-the-metaverse/>.

⁹⁰ *See id.*

⁹¹ *See generally* Nick Statt & Janko Roettgers, *Meta’s Horizon Worlds Is Shrinking, Jeopardizing Its Metaverse Ambitions*, PROTOCOL (Oct. 18, 2022), <https://www.protocol.com/newsletters/entertainment/meta-horizon-worlds-quest-pro>.

⁹² *See id.*

⁹³ *See* Sheila Chiang, *Metaverse Could Drive up Profits – But Most Businesses May Not Be Ready to Invest Yet*, CNBC (Apr. 2, 2023, 9:55 PM), <https://www.cnbc.com/2023/04/03/companies-say-metaverse-can-up-profits-but-are-cautious-to-invest-kpmg.html>.

⁹⁴ *Id.*

⁹⁵ *Id.*

IV. RECOMMENDATION

Active measures to protect users and their avatars should be implemented to maintain a crime-free environment; otherwise, people will lose trust in the metaverse, resulting in its downfall.⁹⁶

Current legislature does not sufficiently protect users and their avatars from violent crimes in the virtual world, although there is potential for change in the future.⁹⁷ As of now, tech companies must focus on methods of both prevention and punishment to deter acts of violence in the metaverse. Meta has already responded by introducing a “safe-boundary” function which prevents avatars from intruding within four feet of other avatars.⁹⁸ However, such a function would stifle innovation and limit the immersive element of the metaverse. Users should have the right to feel safe in their virtual space without the use of such a function. It would also be open to mischievous abuse by users, and circumstances may vary for its intended application.⁹⁹ Consider a scenario where multiple avatars stand in front of a busy doorway and then activate the safeguard. The avatars then become a material obstacle that prevents other avatars from entering or leaving the area. Here, the safeguard function is used to disrupt the metaverse experience, not protect it.

Developers should strengthen the avatar-user relationship, thereby implicating the existence of its legal persona. Granting avatars personhood would ensure that users are held accountable for their actions in virtual worlds, promoting responsible behavior and preventing harmful activities.¹⁰⁰ Currently, many platforms offer the option to create multiple avatars.¹⁰¹ If tech companies envision a metaverse reflecting the real world, they should consider restricting the number of accounts to one per user. Avatars, like real human individuals, should have unique identification codes connecting that avatar to the user. Without necessarily restricting the customization of the avatar’s appearance, the single avatar becomes a true representation of the user. Despite its possible implications on privacy law,¹⁰² this would also help address the issue of anonymity.

Tech companies should then consider creating their own sophisticated “virtual law enforcement” system. This does not mean using avatar policemen to chase down virtual criminals. When users are rightfully reported for committing a violent crime, their conduct should be thoroughly reviewed by a real person enforcing the system. Because the metaverse is entirely digitalized, obtaining monitoring data showing footage or records of the conduct would not be too difficult.¹⁰³ When it is determined that an avatar has committed a crime, the user may be banned from entering the metaverse or serve a temporary “sentence” from accessing it. Interpol has already established its own “metaverse division” to experiment and find appropriate investigative methods for policing virtual worlds.¹⁰⁴ The organization has already partnered with the World Economic Forum in an initiative to regulate the metaverse;¹⁰⁵ developers may also find value in partnering with major law enforcement or government agencies. Such partnerships allow these agencies to gather

⁹⁶ See Cheong, *supra* note 9, at 492–493.

⁹⁷ See Eberhart, *supra* note 46.

⁹⁸ *Crime in the Metaverse*, MAZER (Sept. 7, 2022), <https://mazerspace.com/crime-in-the-metaverse>.

⁹⁹ See *id.*

¹⁰⁰ See Cheong, *supra* note 9, at 470.

¹⁰¹ See Takahashi, *supra* note 84.

¹⁰² See generally Mallory Acheson & Jason I. Epstein, *Why the Metaverse Is Tricky for Data Collection and Discovery*, BLOOMBERG L. (Nov. 10, 2022, 3:00 AM), https://www.bloomberglaw.com/bloomberglawnews/us-law-week/X76MDDLK000000?bna_news_filter=us-law-week#jcite.

¹⁰³ See *id.*

¹⁰⁴ Shawn Ray, *The Metaverse Is Coming – Who Will Police It?*, POLICE1 (Jan. 30, 2023), <https://www.police1.com/investigations/articles/the-metaverse-is-coming-who-will-police-it-ttPcF7hT9wrhfvha/>

¹⁰⁵ *Id.*

and share industry knowledge on metaverse crimes, helping both parties create a safer, well-regulated environment.

V. CONCLUSION

It may take years, or even decades, for the metaverse to establish its presence. Despite its ongoing development, early-stage metaverse platforms have already shown us that users are threatened by virtual violent crimes. Developers may be at risk of losing their user base, and their investors may become wary and cautious of supporting future projects due to a decline in confidence. Considering the metaverse's financial investments and groundbreaking nature, developers bear the primary responsibility of ensuring a secure and user-friendly environment.