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# FROM PIXELS TO PROSECUTION: Tackling Crime in the Immersive Realms of Metaverse

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# FROM PIXELS TO PROSECUTION: Tacking on Crimes in Immersive Realms of the Metaverse

***Moulika Sharma**[*] & **Sanvi Mathur**[**]***

[Abstract: *In an age where electronic gadgets have woven themselves into the very fabric of human existence, it comes as no surprise that the allure of sports and games has found a new arena in electronic devices. Online gaming in the realm of Virtual Reality, with its meteoric rise in popularity, has been propelled by the proliferation of sophisticated electronic gear, captivating the imagination of the present generation. This paper, primarily endeavours to embark on a nuanced exploration of the convergence of the Metaverse and online gaming, punctuated by a recent harrowing incident in the UK wherein a young girl, under the age of sixteen, donned a VR headset, becoming engrossed in a game where her animated avatar was subjected to a virtual assault by several men. Secondly, this paper will delve into the pressing need for legal frameworks governing the Virtual Reality domain, with a focus on the current legal landscapes in Korea, China, United States of America, Germany and India. This examination will reveal the disparities and commonalities in regulatory approaches, highlighting the global imperative for robust legal protections in this burgeoning field. Further, with a special emphasis on the circumstances in India, this paper also discusses the Constitution al provisions that have been acting as an obstacle in the creation of a central legislation. Thirdly, this paper presents first hand data by virtue of an empirical research conducted among young gamers, probing their awareness, willingness, and adherence to existing or potential laws designed to regulate the gaming sphere. This research aims to uncover the readiness of the gaming community to embrace legal oversight and their understanding of its implications.*]

Keywords: *Constitution law, virtual reality, online gaming, metaverse, cyberspace, regulations, personhood, liability, etc.*

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# I

## Introduction

Homo Sapiens is the most evolved yet the most foolish species on this planet.[1] The evolution from the stone Age to the age of artificial intelligence (AI) has been a phenomenon similar to development of nuclear weapons, citing events that could lead to self-destruction[2]. Dating back to the times when only sign language was used to communicate, there has been an incidental change due to the development leading to an entirely different diaspora of electronic communication.[3] Further, the electronic communication itself has been a witness to phenomenal transformation, colossal computers to meta-universal technology.

The major giants of the industry have developed their own digital space, dividing the world into cocoons with different information. The emergence of metaverse has made us realize the complexity of our 'realities' which are extended beyond physical space. In particular, the innovation resulting from the appearance of the metaverse cannot be reduced to a process of mere transposition of a concrete, non-digital reality carried out by means of a next-generation 'internetization'.[4]

The increase in integration of 'metaspace' and 'cyberspace' has led to pace being no longer viewed solely as physical matter, but also as a social construct, and is now understood through its continual evolution.[5] This evolution is driven by the transduction process, where software creates the conditions for its own existence in a constant cycle of generation that goes beyond mere blending.[6]

Metaverse offers plethora of advantages by creating an extensively engrossing parallel world to the pre-existent physical world.[7] The law provides safeguard to

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1 Mind Field, *Why AI Can Harm Us, How We Can Stop It*, THE TIMES OF INDIA (Sep. 20, 2024) *available at:* https://timesofindia.indiatimes.com/blogs/toi-edit-page/why-ai-can-harm-us-how-we-can-stop-it/ (last visited Sep. 22, 2024).

2 *Id.*

3 Oleksii Kostenko, Dmytro Furashev, Dmytro Zhuravlov, Oleksii Dniprov, *Law Review Genesis Of Legal Regulation Web And The Model of The Electronic Jurisdiction of The Metaverse/Oleksi*, 6 BLR 21, 22-27 (2022).

4 Michelangelo Pascali, *The Metaverse of Violence*, 9 FRONT. SOCIOL. 1147627 (2024) *available at:* https://www.frontiersin.org/articles/10.3389/fsoc.2024.1147627/full (last visited Sep. 22, 2024).

5 L. Weatherby, *Delete Your Account: On The Theory of Platform Capitalism*, L.A. REV. BOOKS (2018) *available at:* https://lareviewofbooks.org/article/delete-your-account-on-the-theory-of-platform-capitalism (last visited Sep. 22, 2024).

6 C. Accoto, IL MONDO DATO, CINQUE BREVI LEZIONI DI FILOSOFIA DIGITALE (2017).

7 P Shaoying, *et. al.*, *Ten conjectures: Interpretation of the development trend of the most*

*Contd…*

only to the application products instead of electronic gaming, leading to an unprecedent increase in offences (especially torts by the virtual avatars.)[8] Nobody can deny the usage of virtual reality; hence it calls upon for a legal regulation because it is not mere a gaming platform,[9] but a neglected business making it worth studying.[10] This increase is real, almost half of the population of United states are regular gamers while only ten percent identify themselves as 'gamer'.[11]

### *The Immediate Cause*

The authorities of United Kingdom are grappling with the first ever reported instance of gang rape which occurred in the virtual space wherein, a sixteen-year-old female experienced harrowing assault in the digital environment.[12] While there was no harm caused 'physically', the psychological trauma inflicted, mirrors the devastating impact of a real-world attack.[13]

This incident has shaken the management and the Home Secretary, Mr. James Cleverly, himself took the cognizance and highlighted the need to gauge the gravity of the offence.[14] Further, the crime rate is increasing at an incremental pace, sexual

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*comprehensive metaverse* (IT TIMES, 2022) *available at*: https://m.jiemian.com/article/7078158.html (last visited Sep 15, 2024).

[8] O Kostenko, *Electronic Jurisdiction, Metaverse, Artificial Intelligence, Digital Personality, Digital Avatar, Neural Networks: Theory, Practice, Perspective*, 73(1) WORLD SCIENCE 1-13 (2022) *available at*: https://doi.org/10.31435/rsglobal_ws/30012022/7751 (last visited Sep. 15, 2024).

[9] For discussion of the importance of law in multi-player virtual worlds, *See* F. Gregory Lastowka & Dan Hunter, *The Laws of Virtual Worlds*, 92 CALIF. L. REV. 1, 8-12 (2004).

[10] Edward Castronova, *Virtual Worlds: A First-Hand Account of Market and Society on the Cyberian Frontier* 2, CTR. FOR ECON. STUDIES & IFO INSTIT. FOR ECON. RESEARCH WORKING PAPER NO. 618, 2001.

[11] Maeve Duggan, *Gaming and Gamers*, PEW RES.CTR. (Dec. 15, 2015) *available at*: http://www.pewinternet.org / 2015/12/15/gaming-and-gamers/ [https://perma.cc/6SFP-RQHZ] (finding that 10% of American adults identify as 'gamers') (last visited Sep. 15, 2024).

[12] Tech Desk, *First Case of Virtual Gang Rape Reported in Metaverse, Investigation Underway*, (The Indian Express, Dec 27, 2024.) *available at*: https://indianexpress.com/article/technology/social/virtual-gang-rape-reported-in-metaverse-uk-9093462/ (last visited Sep. 15, 2024).

[13] Gabriele Weimann & Roy Dimant, *The Metaverse and Terrorism: Threats and Challenges*, 17 (PT, 2023) *available at*: https://pt.icct.nl/article/metaverse-and-terrorism-threats-and-challenges (last visited Sep. 26, 2024).

[14] *UK police probe virtual gang rape of girl's 'avatar' in metaverse,* (THE BUSINESS STANDARD, Sep. 29, 2024) *available at*: https://www.tbsnews.net/tech/uk-police-probe-virtual-gang-rape-girls-avatar-metaverse-769142 (last visited Sep. 26, 2024).

harassment is a common phenomenon. Researchers have identified more than a cent of potential violations in the virtual world.[15]

The virtual reality (VR) makes it even more real, increasing the cascading effect over the players. Not only the case of the girl from United Kingdom but there are several other to highlight the gravity of the offence or the lasting effects it leaves behind, leading to trauma.[16] The popularization of the unregulated metaverse will lead it to transform into a breeding ground for unlawful, unsolicited activities which if occurred in real world would classify as crimes.[17]

Much like the conventional real world, characters in the metaverse are at their own liberty to undertake any form of action as per their wish. However, actions of individuals are subjected to state control, laws, rules and regulations in the physical world. Research claims a case of abuse and harassment in Meta's metaverse.[18] The anonymity it offers attracts the users so that their identity is not revealed, leading to an unprecedent increase in harassment cases.[19]

# II

## Understanding the ABC of Metaverse

The Metaverse, which was earlier seen as a far-fetched future only in science fictions, is now a reality, it is a complex, immersive and virtual space created by the tech giant Meta.[20] A metaverse can be defined as a platform which caters to the need of

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[15] Rachel Metz, *Harassment is a problem in VR, and it's likely to get worse*, (CNN BUSINESS, May 5, 2022) *available at*: https://edition.cnn.com/2022/05/05/tech/virtual-reality-harassment/index.html (last visited Sep. 15, 2024).

[16] *Id.*, at 14.

[17] Mathew Chacko & Aadya Misra, *Online Gaming (Regulation) Bill, 2022*, SPICE ROUTE LEGAL *available at*: https://spiceroutelegal.com/publications/online-gaming-regulation-bill-2022/ (last visited Sep. 25, 2024).

[18] *Facebook's Metaverse,* CENTRE FOR COUNTERING DIGITAL HATE *available at*: https://counterhate.com/research/facebooks-metaverse/

[19] M. Kim *et. al.*, *Anonymity and its role in digital aggression: A systematic review*, (SCIENCE DIRECT, ELSEVIER, 2023) *available at*: https://www.sciencedirect.com/science/article/abs/pii/S1359178923000435#:~:text=While%20the%20systematic%20review%20did,cyberbullying%20attitudes%20and%20related%20constructs (last visited Sep. 25, 2024).

[20] Yogesh K. Dwivedi, *et. al.*, *Metaverse beyond the Hype: Multidisciplinary Perspectives on Emerging Challenges, Opportunities, and Agenda for Research, Practice and Policy*, 66 INTERNATIONAL JOURNAL OF INFORMATION MANAGEMENT (2022) *available at*: https://linkinghub.elsevier.com/retrieve/pii/S0268401222000767 (last visited Sep. 20, 2024).

the people by catering to their needs in virtual or augmented reality or any other advanced technology for fulfilling any business or personal difficulty or need[21]. Its potential growth is expected to be exponential, with projections suggesting that by 2026, 25% of the global population will spend at least an hour a day in the metaverse.[22]

It is a nexus of cutting-edge technologies such as VR, Augmented Reality (hereinafter referred to as AR), and Mixed Reality (hereinafter referred to as MR), and blockchain. Contrary to the traditional two-dimensional online experiences, the metaverse offers a multidimensional indulgence, blurring the boundaries between online and physical realities.[23] At its core, the metaverse allows users to engage in activities such as socializing, gaming, shopping, or even attending virtual events within a fully digital environment.

Early versions of the metaverse can be found in massive multiplayer online games like Minecraft, Second Life, and Fortnite, where players interact with each other in virtual settings[24]. Not differing from the physical world, the metaverse offers a plethora of activities that one may not have even imagined undertaking virtually. Metaverse has spread its arms in realms of virtual concerts, shopping, socialisation, education and even electronic sports. Moreover, metaverse tourism is a budding idea, allowing people to visit virtual 'replicas of real-world attractions or explore fictional worlds', promoting in-person tourism while offering unique digital travel experiences.[25] It could also provide practical solutions for virtual property tours or visits to otherwise inaccessible places, like outer space.

### *The Confluence of Metaverse & Online Gaming*

The gaming industry has always been committed to provide immersive experiences and hence has adapted to the emergence of metaverse closely interlinking the both of them, providing the users a form of auditory, visual and social immersion, enhancing these experiences by immersing players in environments that are both interactive and hyper-realistic.[26] Online games serve as the perfect hands-on application for witnessing AR, VR and MR technologies in action.

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[21] McKinsey & Company, *What is the metaverse?* (Aug. 17, 2022) *available at*: https://www.mckinsey.com/featured-insights/mckinsey-explainers/what-is-the-metaverse (last visited Sep. 25, 2024).

[22] Srijoni Sen & Gauri Kumar, THE METAVERSE: A TECH AND POLICY BRIEF FOR INDIA (2024).

[23] *Id.*

[24] *Id.*

[25] Srijoni Sen & Gauri Kumar, *WEB3 and Digital Entertainment: A Tech and Policy Brief for India available at*: https://www.nls.ac.in/wp-content/uploads/2023/03/NLS-Web3-and-Digital-Entertainment-Policy-Brief.pdf (last visited Sep. 25, 2024).

[26] *Id.*

Fundamentally, AR enables users to view the world around them as it is but bettered with layering of digital images, camouflaging the layers such that they appear as though a part of the physical reality, but enhanced.[27] While gaming is the first mainstream application of AR, it won't be the last. It encourages the developers to evolve and provide a magic window into the work with the help of a web camera and consequently could be displayed on a screen.[28]

Hence, even though augmented reality makes it to the headline yet is not well known by majority of the population, leading to endless confusions. It provides the opportunity to interact with the virtual world despite being present in the real one.

A step ahead of AR is VR which completely replaces the real physical world, VR envelops users in a starkly virtual environment where they can move around and interact as if they were physically present. Virtual presence is no bar to an engaging experience, all thanks to the pioneering technology of VR[29]. Though rival technologies, often complementing each other, both riveting, AR enhances real-world interactions, while VR creates entirely fictional spaces.

### *Metaverse- A Hotbed for Unlawful Activities?*

As an unregulated, shackle-free space which inherently relieves users of the compulsivity of transparency and accountability, it provides leverages of anonymity, global reach and opaqueness to its users, the ecosystem of the metaverse serves a fertile breeding ground for unlawful activities.[30] Owing to the jurisdictional limitations of laws, the global and borderless nature of the metaverse is one of the many hindrances in subjecting it to legal framework.

Additionally, the types of crimes which are elaborated later in the paper, are novel and maybe in hybrid form.[31] Additionally, physical crimes like theft, assault, or even corporate espionage can have virtual extensions, with stolen physical information, such as credit card numbers or personal documents, being used to commit fraud or identity theft online. The Metaverse also opens new opportunities for organized

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[27] Weimann and Dimant, *Supra* note 13.

[28] Darshan Arasu, Syafiza AnisBasharuddin, Nur ZulailaZulShukor, Wan Mohd Nazmee, *A Review on Augmented Reality Technology*, 7 IJERMT 2018.

[29] Sen and Kumar, *Supra* note 25.

[30] Janna Anderson & Lee Rainie, *Hype? Hope? Hell? Maybe All Three; (*Experts are split about the likely evolution of a truly immersive 'metaverse'. They expect that augmented and mixed reality enhancements will become more useful in people's daily lives. Many worry that current online problems may be magnified if Web3 development is led by those who built today's dominant Web platforms).

[31] Devesh Pandey K., *Holistic Approach Pivotal for Effective Action against Metacrime: Interpol Paper*, THE HINDU (Jan. 28, 2024) *available at:* https://www.thehindu.com/news/national/holistic-approach-pivotal-for-effective-action-against-metacrime-interpol-paper/article67786478.ece. (last visited Sep. 10, 2024).

crime syndicates to plan and coordinate illicit activities under the cover of virtual anonymity.[32]

The combination of these factors—anonymity, global reach, the blending of virtual and real-world interactions, and the lack of cohesive regulation—makes the Metaverse a complex and challenging frontier for law enforcement, demanding innovative legal frameworks, international collaboration, and sophisticated digital tools to effectively combat the evolving threats within this space.[33]

### *Skill versus Chance in the Virtual Grounds*

The question of whether online VR gaming is a game of chance or skill depends on the mechanics of the specific VR game. The approach to measuring skill and chance, as explained in the initial research, involves evaluating whether past performance can predict future success.[34] If a player's performance in an online VR game is influenced by strategic decisions, reflexes, or skill development, then it falls under the category of a game of skill.

For example, multiplayer VR games that require players to compete in strategic environments (e.g., VR combat or sports simulations) may be classified as skill-based because the outcome depends on the player's physical coordination, tactics, and decision-making abilities[35]. These games would align with the Supreme Court's interpretation in the *R.M.D. Chamarbaugwala*[36] case, where games involving substantial skill do not fall under the scope of gambling.

However, VR games that incorporate lottery draws or slot machine-style systems, which are essentially luck-based mechanisms, would be classified as games of chance. In these cases, the player's input does not significantly affect the outcome, similar to the way roulette works, as the Supreme Court noted in *K.R. Lakshmanan* v. *State of Tamil Nadu*.[37]

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[32] Amar Patnaik, *Regulating India's Online Gaming Industry*, THE HINDU (Jan. 15, 2024) *available at*: https://www.thehindu.com/opinion/op-ed/regulating-indias-online-gaming-industry/article67740783.ece#:~:text=Some%20State%20governments%20attempt%20to,unregulated%20and%20potentially%20harmful%20ones. (last visited Sep. 10, 2024).

[33] Franke Wilmer, *Indian Gaming: Players and Stakes*, 12 WICAZO SA REVIEW 89 (1997), *available at*: https://www.jstor.org/stable/1409164?origin=crossref (last visited Sep. 20, 2024).

[34] Peter Duersch, Marco Lambrecht & Joerg Oechssler, *Measuring Skill and Chance in Games*, 127 EUROPEAN ECONOMIC REVIEW 103472 (2020) *available at*: https://linkinghub.elsevier.com/retrieve/pii/S0014292120301045 (last visited Sep. 19, 2024).

[35] *Id.*

[36] *Id.*, at 65.

[37] Shrivastava and Khan, *Infra* note 141.

Elo ratings is a popular test that allows players to be ranked based on their historical performance, with a wider distribution of ratings reflecting greater skill heterogeneity. In games of pure skill, like chess, the distribution of Elo ratings is large, indicating that outcomes are largely determined by player ability. On the other hand, in games of pure chance, the distribution of player rankings would converge towards zero, reflecting randomness in outcomes.[38]

If VR games exhibit wide Elo rating distributions—where the better player consistently wins—they would clearly fall under the category of skill-based games. Conversely, a compressed Elo distribution could indicate a game dominated by chance. Hence, the authors recommend usage of Elo Ratings as a sieve test to determine the nature of VR gaming. [39]

### *Assessing the Multidimensional Challenges Posed by the Metaverse*

In the social sphere, the metaverse creates a bridge between offline and online, smudging rough separation of physical and digital worlds. Man as a social animal naturally seeks social connections, and the metaverse enables people to expand these interactions, allowing them to attend cultural events, such as museums or performances, without the usual constraints of capacity and time.

While this opens new opportunities for shared experiences, events like virtual entrance ceremonies or funerals can easily feel impersonal and lack the emotional depth of their real-world counterparts.[40] If not carefully crafted, these large virtual gatherings risk becoming tedious, undermining the metaverse's potential to enrich social life by merely replicating reality without adding new value. [41]

The gaming industry, already a frontrunner in metaverse applications, finds new ways to blend virtual and real life, making every day experiences more engaging through gamification. Games can overlap with reality, turning mundane tasks like commuting into point-scoring adventures, and this ability to merge real-world tasks with game elements is creating new ways to entertain users. However, with this integration comes the challenge of maintaining meaningful game rewards in daily life, ensuring that the balance between entertainment and academic or problem-

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[38] Duersch, Lambrecht, and Oechssler, *Supra* note 34.

[39] *Id.*

[40] *Stefan Brambilla Hall & Moritz Baier Lentz, 3 Technologies That Will Shape the Future of the Metaverse – and the Human Experience, WORLD ECONOMIC FORUM GENEVA (2022), available at*: https://www.weforum.org/agenda/2022/02/future-of-the-metaverse-vr-ar-and-brain-computer/ (last visited Sep. 29, 2024).

[41] Yogesh K. Dwivedi, *et. al., Metaverse beyond the Hype: Multidisciplinary Perspectives on Emerging Challenges, Opportunities, and Agenda for Research, Practice and Policy*, 66 INTERNATIONAL JOURNAL OF INFORMATION MANAGEMENT (2022) *available at*: https://linkinghub.elsevier.com/retrieve/pii/S0268401222000767 (last visited Sep. 29, 2024).

solving applications is carefully maintained.[42] Moreover, as gaming extends into real life, it opens new ethical concerns regarding over-immersion and potential addiction.[43]

The business potential of the metaverse is vast, as companies increasingly see it as a space for generating revenue and advertising. Virtual products, for instance, require fewer resources and processes to produce than physical items, and younger users, who are more tech-savvy, are participating in metaverse-driven economic activities. This simplification of interfaces, particularly for older users, is another advantage, allowing for easier interaction with digital kiosks or shopping platforms.[44]

However, the metaverse's reliance on virtual platforms means that businesses must ensure privacy and security are ironclad, particularly when it comes to protecting authored content such as NFTs, which represent ownership of digital assets. Without strong protection, the rise of the metaverse as a commercial space could be stymied by intellectual property theft and other legal issues.[45] Real estate too, has seen a shift, with virtual spaces now being bought and sold as property within the metaverse.[46] While this offers early adopters the chance to pre-emptively stake a claim in new digital marketplaces, it also creates financial risks, as the stability of these virtual platforms determines the value of their investments.[47] If a platform fails, users may find their investments wiped out, underscoring the importance of choosing forward-looking, stable platforms to mitigate potential losses.

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[42] *Id*.

[43] González-Tapia, *Infra* note 59.

[44] Beth Kindig, *Nvidia on How the Metaverse Can Overtake the Current Economy*, FORBES *available at*: https://www.forbes.com/sites/bethkindig/2022/02/18/nvidia-on-how-the-metaverse-can-overtake-the-current-economy/ (last visited Sep. 29, 2024).

[45] Aniket Gulhane, *et. al*., *Security, Privacy and Safety Risk Assessment for Virtual Reality Learning Environment Applications in* 2019 16TH IEEE ANNUAL CONSUMER COMMUNICATIONS & NETWORKING CONFERENCE (CCNC) 1 (2019) *available at*: https://ieeexplore.ieee.org/document/8651847/ (last visited Sep 29, 2024).

[46] *Heiko Leonhard, Maximilian Nagl & Wolfgang Schäfers, Virtual Land in the Metaverse? Exploring the Dynamic Correlation with Physical Real Estate,* SSRN JOURNAL *(2024) available at*: https://www.ssrn.com/abstract=4567859 (last visited Sep. 29, 2024).

[47] Alessandra Oppio & Marco Rossitti, *available at*: https://www.politesi.polimi.it/retrieve/e1edc3e1-c9c2-4286-a70e-097a32a90f2e/2022_12_Asara.pdf. (last visited Sep. 29, 2024).

# III

## Relating the Nature of Harm and Threat to the Physical Reality

### *Delving into the Realms of Harm and Potential Threats*

The term 'harm', often restricted to physical discomfort or difficulty but the latent impact it leaves behind. It can be interpreted as a stimulus which gives birth to an unwanted effect in our minds.[48] It is absolutely impossible to foreseeably detect the nature of stimuli the environment throws at an individual, a task as easy as climbing a mountain, while threat could be associated with an unpleasant, unwelcoming intent leading to harm or loss to any entity.[49] In a recent study in the United States, a survey report of 13–17-year-old users of VR claimed to have had experienced 12 specific types of harm. Published in the journal of New Media and Society highlighting the impact of VR on youth, it introduced certain preventive measures or a protective layer in order to protect the kids especially the females who are more prone to be sexually harassed even in the metaverse.[50]

#### *Financial and Psychological Harm*[51]

Block chain attacks, broker imposter scam, copyright infringement, counterfeiting, identity theft, impersonation scam, money laundering and what not. People involved in cyber-crimes exploit the system under the garb of their avatar to perform such crimes. Every other harm caused leaves behind a lasting impact on the user. The virtual world rather the metaverse is not immune from any of those verbal or sexual abuse restricting the metaverse from being a safe and happy place. The individuals possessing vulnerable avatars are often prone to such harassment. The escalating concern is the growing involvement of the children and adolescents into it. The digital raises high alerts against the amplification of stress, depression, addiction and several other unwanted concerns.[52]

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[48] *How to Define Harm in Ethics*, PHILOSOPHY STACK EXCHANGE *available at*: https://philosophy.stackexchange.com/questions/27911/how-to-define-harm-in-ethics (last visited Sep. 10, 2024).

[49] *Threat*, OXFORD ENGLISH DICTIONARY (Online edition).

[50] Hinduja, S., & Patchin, J. W., *Metaverse Risks and Harms Among US Youth: Experiences, Gender Differences, and Prevention and Response Measures*, NEW MEDIA & SOCIETY (2024) *available at*: https://doi.org/10.1177/14614448241284413 (last visited Sep. 10, 2024).

[51] Crime Facilitated by the Metaverse(s), DAWES CENTRE FOR FUTURE CRIME AT UCL.

[52] Soyeon Kim & Eunjoo Kim, *Emergence of the Metaverse and Psychiatric Concerns in Children and Adolescents*, 34 SOA CHONGSONYON CHONGSIN UIHAK 215, 215–21 (2023).

### *Social Harm and Harm to Privacy*

Privacy, as already discussed, is at the biggest risk of being invaded. Consequently, by tracking the activities of the users crimes like identity theft, phishing or even robbing off the goods of other avatar's, stalking, terrorism, radicalization are at a continuous risk of innumerable crimes. It has become common for organizations to exploit the metaverse, preying upon the users of metaverse for their material gains.[53] Hacking of avatars and demanding ransoms at the threat of sharing the avatar's details to any third party is yet another methodology. Manipulation of public thoughts causes the spread of disinformation giving birth to marginalization based on caste and ideological divisions.[54]

### *Emerging Threats: Deepfakes and Manipulative AI*

Deepfakes, cyberattacks and manipulated AI have created a menace in present times. Deepfake can be divided into two – 'deep learning' and 'fake' and is stuck to the society like a leach.[55] It brings with it sham and abuse wherein people map the face of any individual onto sexual performers or any audio-visual document bringing bad name to that very individual. The tech often considered as a boon, has given birth to metaverse not for the sake of creating nuisance but for the betterment of the society. The AR/VR devices consist of various technologies which collect data which is conveniently being misused. Improper data protection techniques might pose a great amount of problem to the data collected by the metaverse for face or voice recognition.[56] Further the AI has left deepening impact on the society posing potential threat to the humankind. Deep fake is one of a kind but it has to stop somewhere otherwise the metaverse would be no better than a hell.

### *Shaping Consequences for Digital Misconduct- An Inspiration from the Physical World*

The quantum of punishment or rather, whether an act must be punishable or not is determined from the fact whether harm has been caused to a party or not, be it in terms of violation of rights or be it physical harm. However, the crimes in the virtual space urge us to reconsider this parameter. To explain this better, let's take an example. If I choose to avoid seeing you naked, you remain unaware, from your perspective, you're still exposed, but my perception is that you're clothed. This

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[53] Gomez, *et. al.*, A SCOPING STUDY OF CRIME FACILITATED BY THE METAVERSE (2023).

[54] The Wall Street Journal, *The Social-Media Company Has Stepped Up Enforcement, but Its Algorithms Continue to Promote Problematic Content* (2023) *available at*: https://www.wsj.com/tech/meta-facebook-instagram-pedophiles-enforcement-struggles.

[55] S. Maddocks, *'A Deepfake Porn Plot Intended to Silence Me': Exploring Continuities Between Pornographic and 'Political' Deepfakes*, 7 PORN STUDIES 415, 415–23 (2020).

[56] Pan Hui, Pengyuan Zhou, *Deepfake in the Metaverse: An Outlook Survey*, IEEE COMPUTER SOCIETY.

divergence might be mutually acceptable, allowing us to coexist in a sort of 'live and let live' freedom of scenescape, where our realities differ[57]. In fact, one might argue that a baseline legal norm for VR could be the freedom to experience different sensory realities. However, this solution might not fully address the issue at hand.

Does the ability to shield myself from negative experiences nullify the harm they could cause? This seemingly simple question touches on deeper philosophical debates regarding the essence of harm. If harm is defined by the physical or psychological distress of seeing you naked (or experiencing virtual harassment), much—if not all—of that harm could be mitigated by empowering me to control how you appear in my virtual world and how you can engage with my avatar. Yet, despite this private control over my sensory experience, the broader social implications may persist. For example, if I manipulate my sensory settings to perceive you as naked during a conversation, that altered perception might influence my behaviour towards you both during and after our interaction.

Furthermore, even in other contexts, we punish antisocial behaviours like groping[58], which are intended to cause harm—even when the harm doesn't materialize. This is perhaps to deter potential harm, but it also suggests that we view the wrongdoer's culpability as an independent moral offense, even in cases where no actual harm occurs, and no witnesses or recordings exist[59]. The law might struggle to regulate such behaviour, but whether or not it legislates against it, society could reasonably be concerned about its broader effects.

Lastly, the possibility of harm to reputation or dignity can never be ruled out. The mere anticipation of an inappropriate occurrence is psychological harm. As Judge Posner[60] aptly noted, imagine if nude images of a woman were uploaded to the Internet without her consent, even without identifying her by name. These images, once downloaded by strangers in a distant country, would still leave her feeling violated, despite the unlikelihood of those individuals ever meeting her.[61]

Such scenarios force us to critically examine distinctions we often take for granted: between presence and distance, speech and conduct, reality and perception.[62] If

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[57] Mark A. Lemley & Eugene Volokh, *Law, Virtual Reality, and Augmented Reality*, SSRN JOURNAL (2017) *available at*: http://www.ssrn.com/abstract=2933867 (last visited Sep. 17, 2024).

[58] Cf. Andrew Gilden, *Punishing Sexual Fantasy*, 58 WM. & MARY L. REV. 419, 431 (2016); (discussing how the law treats sexual fantasy when it is revealed).

[59] María Isabel González-Tapia, *Virtual Emotions and Criminal Law*, 14 FRONT. PSYCHOL. 1260425 (2023) *available at:* https://www.frontiersin.org/articles/10.3389/fpsyg.2023.1260425/full (last visited Sep. 26, 2024).

[60] *Northwestern Mem'l Hosp.* v. *Ashcroft*, 362 F.3d 923, 929 (7th Cir. 2004).

[61] Lemley and Volokh, *Supra* note 57.

[62] *Id.*

indecent exposure laws exist not solely to protect against physical threats but also to prevent psychological harm rooted in perception, we might need to reconsider the very concept of legal harm[63].

Similarly, if we are concerned with the perpetrator's intended actions—actions which, from their subjective perspective, are as real as any physical act—even when no direct harm befalls the victim, as we do in certain branches of attempt law, it suggests a much broader legal framework for punishing behaviour if only we were aware of it. These considerations have profound implications, not only for virtual spaces but also for our tangible reality.

# IV

## Navigating the Complexity of Personhood and Consequential Liability in the Metaverse

Though not yet fully realized, the ambitious vision of Metaverse aspires to harmonize physical and digital realities in a persistent and interconnected manner, as already discussed, gradual process are likely to unfold over the coming decades. Since Web 3.0 enables users to read, write, and own their data, reclaiming autonomy over their digital presence, it opens the floor to unravel the multifaceted issues of personhood of avatars in the Metaverse.[64] Here, Metaverse emerges not merely as a technological frontier but as a site where legal, ethical, and societal paradigms are being redefined in real-time.[65]

As intriguing as it may be, it is not surprising how the offenses rampant in the physical space pan out in the metaverse equally, if not less, dangerously often presenting themselves as complex situations because of the legislatively untraversed path of the metaverse, posing questions upon the concept of personhood in the virtual space. The convergence of virtual and physical identities, epitomized by digital humans and virtual clones (avatars), pushes the boundaries of traditional understandings of identity and rights[66]. The anonymity inherent in

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[63] González-Tapia, *Supra* note 59.

[64] Mar Gonzalez-Franco & Tabitha C. Peck, *Avatar Embodiment: Towards a Standardized Questionnaire*, 5 FRONTIERS ROBOTICS & AI 74 (2018).

[65] Lorena Arismendy Mengual, *A Legal Status for Avatars in the Metaverse from a Private Law Perspective, 2* INDRET (forthcoming, 2024) *available at*: http://indret.b.wetopi.com/ (last visited Sep. 10, 2024).

[66] Council of Europe & IEEE Standards Association, *The Metaverse and Its Impact on Human Rights, the Rule of Law and Democracy*, DG1 (2023) (Jan. 2024).

avatar use further complicates accountability, as identifying the individual behind an avatar often proves infeasible.

The transition from centralized platforms to decentralized systems is poised to upend traditional power dynamics, granting users unprecedented control while simultaneously complicating accountability frameworks. With increased agency, users are expected to take greater responsibility for their digital twins, or avatars, within the Metaverse. However, the diminished role of intermediaries raises critical questions about liability for unlawful actions in virtual spaces, a tension that directly challenges regulatory objectives.

Not merely for convenience and ease of understanding, avatars can be viewed as proxies of people with the ability to navigate, interact, and participate in a virtual environment in the metaverse. The immersive nature of these interactions magnifies their impact, necessitating legal measures that address both the potential harms and the expanding capabilities of avatars. Notably, the case of Sophia, an AI robot granted Saudi Arabian citizenship in 2017, illustrates the complexities of extending legal personhood to non-human entities.[67] This precedent compels a revaluation of foundational legal concepts, suggesting that similar frameworks could inform the regulation of avatars, balancing innovation with the protection of rights and accountability.[68] The concept of legal personhood is a fundamental construct in law, referring to the recognition of an entity as a subject of legal rights and duties.[69]

This can further pose two distinct concerns one addressing the current fragmented reality of multiple avatars across platforms and another speculating on a future where a singular digital identity might prevail. However, these are battles to be fought after dismissal or acceptance of legal status of avatars in the virtual space.[70]

Time and again, even in this paper, this issue is being termed as complex to address primarily because of the nature of avatars which may be controlled by natural or legal persons or, alternatively, operate autonomously through artificial intelligence agents. So far, the recognition of independent legal personhood for AI agents has been widely dismissed by legal scholars, and rightly so. The argument hinges on the inherent characteristics of natural persons—freedom of will, intentionality, moral agency, self-consciousness, and a sense of personal identity—which are not transferable to AI systems. Consequently, granting fundamental rights like physical integrity, suffrage, and freedom, or even subjective rights such as ownership and

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[67] Lorena Arismendy Mengual, *Supra* note 65.

[68] Zara Stone, Everything You Need to Know About Sophia, the World's First Robot Citizen, Forbes (Nov. 7, 2017) *available at*: https://www.forbes.com/sites/zarastone/2017/11/07/everything-you-need-to-know-about-sophia-the-worlds-first-robot-citizen/ (last visited Sep. 10, 2024).

[69] Kurki, AJ Visa, *A Theory of Legal Personhood*, OXFORD LEGAL PHILOSOPHY (2019).

[70] Lorena Arismendy Mengual, *Supra* note 65.

personality rights, is inherently problematic and unsupported by the very nature of AI agents.

The idea of granting personhood to virtual entities or highly autonomous devices, making them responsible for damages arising from independent decisions or interactions, has been rejected by the European Economic and Social Committee due to the risk of 'moral hazard' it could introduce. Further reinforcing this stance, a coalition of experts in AI, robotics, ethics, and law critiqued the notion in an Open Letter to the European Commission, arguing that the attribution of liability to AI agents is neither impossible nor as complex as their autonomy might suggest. Such proposals, they contend, exaggerate the current capabilities of AI systems. This debate, deeply entwined with ethical, philosophical, and technological considerations, remains unresolved.

### *Dissecting the Report by the European Commission*

The concept of legal personhood is understood as neither binary nor absolute[71]; its scope and content are seen to be adaptable, shaped by the legal system or precedents in each jurisdiction to serve societal needs effectively. Within the European context, the predominant view remains opposed to conferring special legal personhood on AI agents,[72]which categorically rejects granting legal status not only to autonomous robots or AI systems but also to emerging digital technologies.[73]

The report highlights several critical conclusions. First, strict liability should apply to individuals or entities operating permissible but high-risk technologies, such as AI-driven robots in public spaces, for any harm caused by their operation. Second, operators of low-risk technologies must still fulfil duties of selection, monitoring, and maintenance, with liability arising in cases of negligence.[74] Third, a degree of autonomy in a technology does not absolve its user from accountability for resulting harm, equating such accountability to that required if a human auxiliary had caused the harm. Finally, it asserts that existing legal frameworks are sufficient to attribute liability for damages caused by autonomous systems without the need to establish their legal personality.[75]

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[71] Ben Chester Cheong, *Avatars in the Metaverse: Potential Legal Issues and Remedies*, 3 INT'L CYBERSECURITY L. REV. 5 (2022).

[72] European Commission's Group of Experts on *Responsibility and New Technologies, Report* (2019).

[73] European Commission, Directorate-General for Justice and Consumers, *Liability for Artificial Intelligence and Other Emerging Digital Technologies* 37 (2019).

[74] Ugo Pagallo, *Apples, Oranges, Robots: Four Misunderstandings in Today's Debate on the Legal Status of AI Systems*, 376 PHIL. TRANSACTIONS ROYAL SOC'Y A: MATH., PHYSICAL & ENG'G SCI. 2133 (2018).

[75] Claudio Novelli, Giorgio Bongiovanni & Giovanni Sartor, *A Conceptual Framework for Legal Personality and Its Application to AI* 13(2) JURISPRUDENCE 216–19 (2022).

### *The Nuances of Legal Personhood for Avatars*

Historically, the status of legal personhood has been granted not only to natural persons but also to artificial entities such as corporations, which are treated as 'legal persons' for the purposes of contracts, property ownership, and liability.[76] The extension of legal personhood to AI avatars would represent a significant step forward in the legal recognition of artificial intelligence, granting these entities a form of legal agency and autonomy that could have far-reaching implications for their role in the metaverse and beyond [77]. One of the primary arguments in favour of granting legal personhood to AI avatars is that it would provide a clear framework for attributing rights and responsibilities to these entities, enabling them to participate fully in the legal and economic systems of the metaverse.[78] By recognising AI avatars as legal persons, they could enter into contracts, own virtual property, and be held liable for their actions, providing a degree of legal certainty and predictability that would be essential for the smooth functioning of the metaverse economy.[79]

The recognition of legal personhood for AI avatars offers a compelling framework for ensuring accountability and safeguarding the rights of human users in their interactions with these virtual agents.[80] As AI avatars advance in their capacity to make decisions with tangible real-world consequences, the establishment of clear legal mechanisms becomes essential to subject these entities to the rule of law and provide remedies for any harms they might cause.[81] However, this approach is not without its critics and complexities. Moreover, granting legal personhood to AI entities might result in prioritizing their interests over those of humans, creating a problematic form of 'AI exceptionalism' with potentially hazardous implications.[82] Establishing precise criteria to evaluate their capabilities is crucial to ensuring that

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[76] R. van den Hoven van Genderen, *Do We Need New Legal Personhood in the Age of Robots and AI?* In PERSPECTIVES IN LAW, BUSINESS AND INNOVATION 185–206 (2018).

[77] A. L. Stein, *Artificial Intelligence and Climate Change*, 37 YALE J. ON REG. 890, 890–939 (2020).

[78] K. Militsyna, *Legal Personhood for Artificial Intelligence: Pro, Contra, Abstain?* 122(1) TEISĖ 148, 148–63 (2022) *available at*: https://doi.org/10.15388/teise.2022.122.10 (last visited Sep. 10, 2024).

[79] Vili Lehdonvirta, CLOUD EMPIRES: HOW DIGITAL PLATFORMS ARE OVERTAKING THE STATE AND HOW WE CAN REGAIN CONTROL (2024).

[80] Charles Turner & Susan Schneider, *Could You Merge with AI? Reflections on the Singularity and Radical Brain Enhancement* in THE OXFORD HANDBOOK OF ETHICS OF AI (M.D. Dubber, F. Pasquale & S. Das *eds.*, online ed., 2020).

[81] Alexandre de Streel, Alexandre Bibal, Benoît Frénay & Michel Lognoul, *EXPLAINING THE BLACK BOX: WHEN LAW CONTROLS AI* (2020).

[82] David J. Gunkel, ROBOT RIGHTS (2024).

the rights and responsibilities attributed to these entities align proportionately with their actual functionality and impact.[83]

One potential approach to addressing these challenges is the development of a 'tiered' system of legal personhood for AI avatars, which would grant different levels of rights and responsibilities based on the sophistication and autonomy of the entity in question.[84] Under this approach, 'weak' AI avatars with limited decision-making capabilities could be granted a basic form of legal personhood, with limited rights and liabilities, while more advanced 'strong' AI avatars could be granted a higher level of legal status, with correspondingly greater rights and responsibilities.[85] Another approach is to focus on the development of 'hybrid' legal frameworks that combine elements of legal personhood with other forms of legal protection and regulation.[86] This could involve the creation of specialised legal regimes for AI avatars, which would grant them certain rights and responsibilities while also subjecting them to specific regulations and oversight mechanisms to ensure their safe and responsible operation.[87]

Physical space can be defined as the protected area which an individual enjoys or could be termed as a safe space of that individual. There had have been in-depth research defining the physical space in the real world from the middle of twentieth century but the virtual world is not left far behind.[88] A researcher named Phillips Jeffery[89] had been working upon it alongside his colleagues questioning the very existence of physical space in the virtual world. The major objective behind delving deep into the concept of virtual space is to ensure a secured zone for the avatars to communicate.[90] In the physical world, the foundation of criminal law rests on the

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[83] Samir Chopra & Laurence F. White, A LEGAL THEORY FOR AUTONOMOUS ARTIFICIAL AGENTS (2011).

[84] Mireille Hildebrandt, *Legal Personhood for AI?* In LAW FOR COMPUTER SCIENTISTS AND OTHER FOLK 185–206 (2020).

[85] Luciano Floridi, *et. al.*, *AI4People—An Ethical Framework for a Good AI Society: Opportunities, Risks, Principles, and Recommendations*, 28 MINDS & MACHINES 689, 689–707 (2018).

[86] Yves Benhamou & Jonathan Ferland, *Artificial Intelligence & Damages: Assessing Liability and Calculating the Damages* in LEADING LEGAL DISRUPTION: ARTIFICIAL INTELLIGENCE AND A TOOLKIT FOR LAWYERS AND THE LAW (2021).

[87] Elvira Fosch-Villaronga & Tjerk Mahler, *Cybersecurity, Safety and Robots: Strengthening the Link Between Cybersecurity and Safety in the Context of Care Robots*, 41 COMPUT. L. & SEC. REV. 105528 (2021) *available at*: https://doi.org/10.1016/j.clsr.2021.105528 (last visited Sep. 10, 2024).

[88] E. Hall, T. Hidaka tr., N. Sato tr., THE HIDDEN DIMENSION (1986).

[89] P. Jefffrey, *Personal Space in a Virtual Community*, CHI 98, 347-348 (1998).

[90] Ryota Nishihara, Masashi Okubo, *A Study on Personal Space in Virtual Space based on Personality*, 3 RYOTA NISHIHARA AND MASASHIOKUBO / PROCEDIA MANUFACTURIN 2183 – 2190 (2015).

recognition of personhood and the inherent rights tied to an individual's physical existence.

When someone's personal space is violated, it is considered a punishable offense because it infringes upon their dignity, autonomy, and well-being as a recognized person. This same principle must extend into the metaverse, where avatars serve as digital representations or 'proxies' of real individuals. An avatar is not just a customizable visual entity—it is the embodiment of a person's identity, presence, and agency in virtual spaces. Violations of an avatar's personal space—be it through harassment, unauthorized interaction, or other forms of misconduct—should be viewed with the same seriousness as similar violations in the physical world. To dismiss these actions as inconsequential because they occur in a virtual environment undermines the reality that the avatar is a direct extension of its user, carrying their emotions, intentions, and sense of self into the digital realm.

Through this paper, the authors advocate for the acknowledgement of legal and ethical frameworks that recognize the equivalence of personal space across both physical and virtual worlds is crucial. This will ensure that individuals' rights are not diminished simply because they navigate through digital landscapes. By acknowledging the avatar as an extension of personhood, the principles of respect, protection, and accountability, will be upheld fostering a safe and equitable metaverse where personal freedoms are respected and safeguarded.[91]

### *The Loggerheads of Liability*

Determining responsibility for harm caused by an AI avatar—whether attributable to the avatar itself, its human operator, or the company behind its technology—poses significant legal and ethical challenges.[92] It also necessitates the development of novel legal frameworks and doctrines tailored to the unique challenges presented by AI agents.[93]

Traditional liability frameworks, rooted in human agency and direct responsibility, are increasingly strained by the emergence of AI entities capable of operating independently of their human creators or users.[94] This section delves into the intricate legal landscape surrounding autonomous AI avatars, exploring potential

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[91] This portion of the paper would not have been possible without the guidance and insightful feedback of Professor Dr. Megha Nagpal, Professor, Symbiosis Law School, Noida. I am deeply grateful for their support and encouragement throughout the process.

[92] Mark A. Lemley & Bryan Casey, *Remedies for Robots*, SSRN ELECTRONIC JOURNAL (2018) *available at*: https://doi.org/10.2139/ssrn.3223621 (last visited Sep. 10, 2024).

[93] Mara C. Buiten, *Towards Intelligent Regulation of Artificial Intelligence*, 10 EUR. J. RISK REGUL. 41, 41–59 (2019) *available at*: https://doi.org/10.1017/err.2019.8 (last visited Sep. 10, 2024).

[94] Ignatius Giuffrida, *Liability for AI Decision-Making: Some Legal and Ethical Considerations*, 88 FORDHAM L. REV. 439, 439–56 (2019).

theories and mechanisms for attributing responsibility and ensuring compensation for harm.

A primary obstacle in assigning liability is the difficulty of establishing a clear causal link between an avatar's decision-making processes and the resulting harm.[95] Unlike conventional software systems governed by fixed instructions, autonomous AI avatars utilize learning algorithms to adapt based on environmental inputs and internal goals.[96] Consequently, their actions may not directly reflect the intent or control of their developers or operators, but rather arise from complex interactions between training data, learning processes, and situational factors.[97]

One proposed solution is adopting a strict liability framework, akin to product liability law, which would hold creators or operators accountable for harms caused by their AI avatars regardless of fault or foreseeability.[98] This approach offers two key benefits: incentivizing developers to prioritize safety and reliability while providing victims with a straightforward means of seeking redress.[99] However, critics caution that strict liability might stifle innovation by deterring companies and researchers from developing transformative AI technologies due to the substantial risks involved.[100] Additionally, this framework could oversimplify the intricacies of AI decision-making, potentially attributing liability in cases where the avatar's actions were reasonable or justifiable based on available information.[101]

### *Alternative Approaches of Classification of Avatars*

A creative approach to avoid awarding personhood to avatars would be classifying them as 'things' —objects that can be owned, used, or transferred due to their intrinsic utility and separability from human beings.[102] However, while such a classification is plausible, it offers limited insights into the pressing legal challenges posed by the Metaverse.[103] Viewing avatars as 'things' emphasizes their potential as objects of legal dispositions and acquisitions, but does little to advance discussions

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[95] Mark A. Lemley & Bryan Casey, *Remedies for Robots*, SSRN ELECTRONIC JOURNAL (2018) *available at*: https://doi.org/10.2139/ssrn.3223621 (last visited Sep. 10, 2024).

[96] Stuart J. Russell & Peter Norvig, ARTIFICIAL INTELLIGENCE: A MODERN APPROACH (4th ed. 2021).

[97] Andrew D. Selbst, *Negligence and AI's Human Users*, 100 B.U. L. REV. 1315, 1315–76 (2020).

[98] David C. Vladeck, *Machines Without Principals: Liability Rules and Artificial Intelligence*, 89 WASH. L. REV. 117, 117–50 (2014).

[99] Omri Rachum-Twaig, *Whose Robot Is It Anyway? Liability for Artificial-Intelligence-Based Robots*, 2020 U. ILL. L. REV. 1141, 1141–75.

[100] Gary E. Marchant & Rachel A. Lindor, *The Coming Collision Between Autonomous Vehicles and the Liability System*, 52 SANTA CLARA L. REV. 1321, 1321–40 (2012).

[101] Yavar Bathaee, *The Artificial Intelligence Black Box and the Failure of Intent and Causation*, 31 HARV. J.L. & TECH. 889, 889–938 (2018).

[102] Bernard Rudden, *Things as Thing and Things as Wealth*, 14 *Oxford J. Legal Stud.* 81 (1994).

[103] Gregory Astowka & Dan Hunter, *The Laws of the Virtual Worlds*, 92 CALIF. L. REV. 1 (2004).

about actionable rights or interests in them under Property Law, Contract Law, Intellectual Property Law, or other legal domains.

*As Digital Content or Services:*

Another approach involves treating avatars as digital content or services as may be defined under the legislations regarding information technology statues of a country. Depending upon the definition of digital data, avatars may be subject to Consumer Protection Law when their supply is contractually agreed upon in a business-to-consumer context. This perspective may open pathways for addressing contractual and property rights concerning avatars within the digital ecosystems of the Metaverse.[104]

*As Products*

This perspective has been the predominant view supported by legal scholars regarding the issue of damages caused by AI-equipped robots, according to the European Commission.[105] Indeed, it is quite challenging to align the concept of the avatar (either as a unique digital twin or as means of participating in a given online virtual world) with that of a 'product', since the latter is currently defined as movable property, which mostly relates to tangible goods.[106] As explained above, avatars can be controlled by natural persons, juridical persons and AI agents in a way that could reasonably fit into the concept of an act or omission of a third party. The classification of avatars as products not only stretches existing legal definitions but also raises critical issues around user anonymity and the protection of personal data, obligations that online platforms are currently mandated to uphold.[107]

*As Digital Assets*

According to the principles in UNIDROIT's Draft Principles on Digital Assets and Private Law, a digital asset is defined as an electronic record that is capable of being subject to control. Control, in this context, requires three key abilities: to prevent others from gaining access to the digital asset's benefits, to exclusively derive those benefits, and to transfer these rights to another party. While many electronic records might be colloquially described as digital assets, they do not meet this standard unless they can be exclusively controlled.

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[104] Natali Helberger, Marco Loos & Lucie Guibault et al., *Digital Content Contracts for Consumers*, 36 J. CONSUMER POL'Y 37, 37–57 (2013); On an updated note: personal data provided by the user serves the same purpose as currency, in exchange for the supply of a digital content or a digital service.

[105] European Commission, Directorate-General for Justice and Consumers, LIABILITY FOR ARTIFICIAL INTELLIGENCE AND OTHER EMERGING DIGITAL TECHNOLOGIES 3 (2020).

[106] European Commission, *Id.*, at 27.

[107] María José Santos Morón, *Régimen de Responsabilidad por Daños Causados por Productos Defectuosos* in Pedro del Olmo García & Ana Soler Presas, PRÁCTICUM DE DAÑOS (2019).

However, it is notable that if avatars are classified as mere 'things' rather than as extensions of human identity, it could dramatically change the consequences of their human-like interaction in the metaverse. By treating avatars as objects, they would no longer be seen as capable of actions that carry legal consequences. This shift would mean that criminal laws, which are designed to regulate human behaviour and ensure accountability, would not have the slightest of scope to be applied to avatars.

# V

## What are various nations up to?

This section will develop an understanding of the legal and regulatory framework of various countries across the globe having a fair share in the gaming industry in order to unearth those latent aspects that these technologies can offer. Virtual Reality, Augmented Reality or Artificial Intelligence, offer a variety of features which could be detrimental for the 'netizens.' An analysis of what other countries have to offer is an effort to understand how the below listed countries are tackling the issues surrounding the metaverse which itself is an unregulated play-area. These insights from developed nations could help India fill the voids of insufficient legal architecture towards building a comprehensive framework for regulating the technologies surrounding online gaming.

### *Korea*

Korea is well known for its gaming industry with significant developments in VR, AR and AI. The trend of augmented reality is not only restricted to gaming platform but has a widespread hold over the other industries also.[108] South Korea has witnessed a very rapid spread of AR usage in real world. Post an unprecedented increase, the Game Industry Promotion Act[109] was passed which was first of its kind, mainly focusing upon protection of its users especially minors from any harm or harassment that they might be exposed to. The Metaverse Promotion Act[110] is

[108] *Korea: Rapidly evolving VR, AR and AI technologies in the home shopping industry* (Jul. 09, 2019) *available at*: https://www.s-ge.com/en/article/global-opportunities/20191-c6-korea-home-shopping-industry?ct (last visited Sep. 10, 2024).

[109] The Game Industry Promotion Act, Act No. 11690, Mar. 23, 2013.

[110] Philip Lee, *S. Korea's Metaverse Act to Drive Digital Economy*, THE PICKOOL, https://www.thepickool.com/s-koreas-metaverse-act-to-drive-digital-economy/#:~:text=The%20country's%20Ministry%20of%20Science,in%20this%20innovative%20digital%20space (last visited Sep. 27, 2024).

further a regulatory framework which supports the organisations in the digital space.

Looking at the opportunities that metaverse offers in the future, the Korean government had attempted to regulate it and streamline that relate to it. The Korean Government is trying to build a strong regulatory foundation so that it can pass all the tests or obstacles that come with time while focussing upon personal data protection, finding it to be one of the most essential factors and consequently released an AI ethics checklist[111]. The checklist is attempted to remain fair, transparent and non-discriminatory into the National strategy for the Artificial Intelligence. Clauses on user privacy, fair play, attenuate any case of harassment that user might suffer in the virtual world are also present in the legislation.

Moreover, the nation has been rather stringent with the act of regulating the gaming industry from the past decade in order to help the youth sustain and enjoy a better standard of life without compromising on hours that must be dedicated to sleep due to online gaming. Though the Shutdown Act[112] was abolished in 2021, under the Korean Gaming Laws, each game played by the individuals needs to be evaluated on a case to case to basis and any of them may be rejected on grounds of speculative nature of the game.

It has different levels referred to as the GRAC's age rating. It is indeed a bold step to regulate the game which a ten-year-old plays and what a 18 year could. Hence regulating all these essential features brings down the chances of any offence committed and also creates a system which is under due diligence. Other than legislation keeping a check on gaming laws, there also exist AML legislation which applies to online gambling sector in order to prevent any frauds. [113]

### *United States of America*

As unfortunate as it may seem, there exists no specific legislation regulating AR, VR, AI or the gaming industry in specific in one of the oldest democracies of the world.[114] However, what does exist is a number of other regulations governing the privacy laws in order to keep a check upon the extent of personal data exposed. Moreover,

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[111] Do Hyun Park, Eunjung Cho, Yong Lim, *A Tough Balancing Act – The Evolving AI Governance in Korea', East Asian Science*, 18(2) TECHNOLOGY AND SOCIETY: AN INTERNATIONAL JOURNAL 135–154 (2024).

[112] Devindra Hardawar, *South Korea to end its controversial gaming curfew*, Aug. 25, 2021 *available at*: https://www.engadget.com/south-korea-gaming-shutdown-law-end-163212494.html (last visited Sep. 9, 2024).

[113] *Id.*, at 108.

[114] Paul Bond, *EU, South Korea, Japan Announce Metaverse Regulation Plans* (Sept. 26, 2022) *available at*: https://www.hklaw.com/en/insights/publications/2022/09/eu-south-korea-japan-announce-metaverse-regulation-plans (last visited Sep. 10, 2024).

the main objective of the of COPPA i.e. Children's Online Privacy Protection Act[115] is to maintain the security and safety of the children exposed to the gaming in virtual reality, making parental consent mandatory for the same. Like any other country, the government's priority is to safeguard the privacy of its citizen's. The FTC i.e. the Federal Trade Commission, works to prevent any fraudulent or misleading act in the gaming industry while AI poses a question against the fairness and transparency.[116]

Many States of the United States are individually introducing legislations to provide safeguard to users (the ones who play games in the virtual world). For instance, the state of Illinois introduced biometric data laws to keep a record of the features or the movement. The major focus of this nation so far has been on gambling which is another one of the fastest growing industries globally. [117]

### *China*

The People's Republic of China is a communist nation famous or better still, infamous for its democratic anarchy. In order to keep a check on the users in the VR or AR setup, it introduced Cybersecurity, Data Security Law and also a Personal Information Protection Law.[118] It acts like the shackles in the hand of the data fiduciaries or the stakeholders in the gaming industry to ensure protection of minor form any kind of irrelevant content, protect the personal details of the users.

The regulations have also bestowed the responsibility of limiting the time minors can spend on the VR or AR gaming, monitoring the kind and amount of data being exposed to the general public in order to ensure that no source of violence reaches the users, on the shoulders of the stakeholders.[119] One of the few notices [120]issued in 2019 made it mandatory for the video gaming service providers to check upon the identity of each user and a non-tolerance policy for the unverified users. It also

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[115] Children's Online Privacy Protection Act, 15 U.S.C. § 6502 (1998).

[116] Maeve Duggan, Dana Page, *Gaming and Gamers,* PEW RESEARCH CENTRE (2015).

[117] *Id.,* at 113.

[118] *China Augmented Reality and Virtual Reality Industry to Grow at a CAGR 32.0% from 2022 to 2027*, MARKETS AND MARKETS *available at*: https://www.marketsandmarkets.com/PressReleases/china-augmented-reality-virtual-reality.asp (last visited Sep. 10, 2024).

[119] Josh Ye, *China announces rules to reduce spending on video games,* REUTERS (Dec. 22, 2023) *available at*: https://www.reuters.com/world/china/china-issues-draft-rules-online-game-management-2023-12-22/#:~:text=Online%20games%20will%20now%20be,incentive%20mechanisms%20in%20online%20games (last visited Sep. 29, 2024).

[120] Leon Y. Xiao, P*eople's Republic of China Legal Update: The Notice on Further Strictly Regulating and Effectively Preventing Online Video Gaming Addiction in Minors,* 25(9) GAMING LAW REVIEW (2021).

issues a clear warning for any company operating exclusive of its origin need to comply with the regulations set up by the government of China.

### *Germany*

Germany, a small nation forming the central part of the Europe, is subjected to maximum number of regulations introduced by the European Union (herein after referred to as EU).[121] Being the mother body of the countries that are associated with European Nations, EU plays a major role in framing legislation to satisfy the needs of the nations. Therefore, Germany follows the footsteps of the European Union even in the case of AR, VR or AI especially over the gaming industry.[122]

The two major frameworks leading the way Digital Service Act[123] and Digital Markets Act[124] to regulate the virtual world. Further looking at the pace at which AR, VR or AI, EU's Commissioner has raised a concern over the existing mechanism and has urged to introduction of few more regulations.[125] They are not only focussing upon preventing monopoly of the data fiduciaries but also consumer protection. Henceforth, like any other nation Germany's focus or any other European country had been privacy and safety of its users.

# VI

## The Status in India: Constitution al Contours and the Legal Framework Associated with Digital Gaming Including Metaverse

### *Gaming versus Esports in India Amidst the Dilemma of the Lists*

In April 2022, the House of People, introduced the Online Gaming (Regulation) Bill, 2022[126]. The bill defines 'online gaming' as games played on electronic devices such as computers, mobile phones, tablets, and others. Among other loopholes that the bill fails to address, it fails to clear the muddy waters regarding the purview of

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[121] Christoph Runde, GERMANY IN THE METAVERSE: POSITIONING OURSELVES AND PERSPECTIVES OTHER COUNTRIES' METAVERSE STRATEGIES AND WHAT WE MIGHT LEARN FROM THEM (2024).

[122] *Id.,* at 113.

[123] Regulation (EU) 2022/ 2065 of the European Parliament and of the Council of 19 October 2022 on *a Single Market for Digital Services* (Digital Service Act), 2022 O.J. (L 277) 1.

[124] Regulation (EU) 2022/1925 of the European Parliament and of the Council of 14 September 2022 on *contestable and fair markets in the digital sector* (Digital Markets Act), 2022 O.J. (L 265) 1.

[125] *Id.,* at 113.

[126] The Online Gaming (Regulation) Bill, 2022, Bill No. 305 of 2022, Lok Sabha, 17th Sess. (India).

Electronic Sports (hereinafter referred to as Esports) and Online Gaming as well. [127] It leaves the questions of weather online gaming is included in the scope of Esports unanswered. Moreover, the bill doesn't differentiate between 'games of skill' and 'games of chance,' which shall be subsequently discussed in the paper.[128]

While sports are a listed as a state subject as per the Schedule VII of the Constitution , the legal limbo arises in the matter of legislating upon Esports and/ Online gaming. To address ambiguous zone, one could argue for shifting 'sports' to the Concurrent List, thereby enabling both the Union and the States to legislate on the matter. Alternatively, under the residuary powers vested in the Union through Entry 97 of List I[129], Esports could fall within the Union's exclusive purview since it is not explicitly covered by the State or Concurrent Lists.[130] Entries 10 and 13 of List I[131], which empower the Union to regulate international events and foreign affairs, further support the argument for central control, as Esports participants often represent the nation rather than individual States.[132]

Although the Online Gaming (Regulation) Bill, 2022[133] is set to be a central legislation, the Government of Rajasthan recently put forth the draft Rajasthan Virtual Online Sports (Regulation) Bill, 2022.[134][135] In an unexpected move, the Rajasthan Government has sought to include esports under the same framework as fantasy gaming, sparking significant controversy within the gaming community. While the Rajasthan Government's initiative deserves recognition, its approach appears misdirected. A state-specific law could potentially complicate matters further. Therefore, a distinct regulatory framework is necessary to govern esports

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[127] Tanushree Saxena, *Online Gaming Regulations 2022: Unlocking a New Level*, (Sep. 25, 2024) *available at*: https://www.cyberpeace.org/resources/blogs/online-gaming-regulations-2022-unlocking-a-new-level (last visited Sep. 10, 2024).

[128] Chacko and Misra, *Supra* note 17.

[129] The Constitution of India, Art. 246, Entry 97 of List 1.

[130] Siddharth Batra & Shivani Chawla, *The Convoluted Case of Data Privacy and Esports Industry in India: Challenges and Way Forward*, THE CONVOLUTED CASE OF DATA PRIVACY AND ESPORTS INDUSTRY IN INDIA: CHALLENGES AND WAY FORWARD, *available at*: https://www.scconline.com/blog/post/2022/09/07/the-convoluted-case-of-data-privacy-and-esports-industry-in-india-challenges-and-way-forward/ (last visited Sep. 10, 2024).

[131] The Constitution of India, Art. 246, Entry 10 & 13 of List 1.

[132] Siddharth Batra & Chinmay Dubey, *Regulation of Esports in India...*, (Aug. 17, 2022) *available at*: https://www.scconline.com/blog/post/2022/08/17/regulation-of-esports-in-india/ (last visited Sep. 25, 2024).

[133] The Online Gaming (Regulation) Bill, 2022, Bill No. 305 of 2022, Lok Sabha, 17th Sess. (India).

[134] Rajasthan Virtual Online Sports (Regulation) Bill, 2022.

[135] Batra and Chawla, *Supra* note 130.

independently, without merging it with fantasy gaming or other forms of online gaming.[136]

A writ petition filed by a Noida-based NGO, Social Organization for Creating Humanity (SOCH), has challenged the Central Government's authority to regulate online gaming under The Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Amendment Rules, 2023[137] before the Delhi High Court.[138] This controversy sparks debate on the distribution of legislative power between the Centre and States. The Seventh Schedule of the Constitution classifies subjects into three lists: Union List, State List, and Concurrent List. Entry 31[139] of the Union List grants the Centre control over telecommunications, while entries 33 and 34 of the State List[140] give States the power to legislate on matters like betting, gambling, and entertainment.[141] A number of states have formulated laws regarding online gaming, fantasy sports, digital casinos and the like, which are in force.

The IT Amendment Rules, 2023[142] aim to regulate online gaming by virtue of formulation of a new class of intermediaries that is, online gaming intermediaries who must comply with due-diligence obligations overseen by a self-regulatory body. Rule 3(b)(ii)[143] of the amendment requires intermediaries to remove games that cause 'user harm,' a broadly defined term that includes any detrimental effect on users or children.[144] Rule 4A further empowers the self-regulatory body to disallow real-money online games involving wagering. These provisions have raised concerns about the Central Government overstepping its Constitution al boundaries, as the regulation of gambling and betting is traditionally a state subject.

The petition finds its basis on the footing that States have the exclusive power to legislate upon this subject. While Rule 3(b)(xi)[145] makes it mandatory for the

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[136] Saxena, *Supra* note 127.

[137] The Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Amendment Rules, 2023 Gazette of India, Extraordinary, pt. II, sec. 3(i), Notification No. G.S.R. 133(E) (Feb. 28, 2023).

[138] Sanjana Sreenath, *Regulation of Online Gaming: IT Amendment Rules Vis-à-Vis India's Federal Structure*, REGULATION OF ONLINE GAMING: IT AMENDMENT RULES VIS-À-VIS INDIA'S FEDERAL STRUCTURE (Aug. 17, 2023) *available at*: https://www.foxmandal.in/regulation-of-online-gaming-it-amendment-rules-vis-a-vis-indias-federal-structure/ (last visited Sep. 26, 2024).

[139] The Constitution of India, Art. 246, Entry 31 of List 1.

[140] The Constitution of India, Art. 246, Entry 33 & 34 of List 2.

[141] Alaukik Shrivastava & Kashish Siddiqui Khan, *Online Gaming Laws in India: An Analysis of the Legislative Intent Vis-a-Vis the Future Roadmap*, 14 UNLV GAMING L.J. 161 (2024).

[142] *Id*., at 45.

[143] The IT Amendment Rules, 2023.

[144] Sreenath, *Supra* note 138.

[145] Information Technology (Intermediary Guidelines and Digital Media Ethics Code)

*Contd…*

intermediaries to obey the local laws to acknowledge the authority of the State, it is argued that Rule 4A directly contravenes the States' power to regulate this subject. The ongoing case highlights the tension between federalism and central oversight in India's legal framework. While the subject being a crucial matter in this booming economy of gaming requires the attention of the centre for want of uniform laws, by invoking internet regulation as a garb to justify its over-reach is stepping on thin ice as far as the balance of power is concerned.

### *Insufficiency of Current Legal Framework in India*

Moreover, the sharp rise in cybercrimes related to sexual harassment or exploitation—marked by a surge to over 3.4 thousand cases nationwide in 2022, compared to the relatively lower figures in 2016 and 2017[146]—underscores the critical necessity for immediate intervention to reverse this alarming trend. This surge highlights the need for legal frameworks that can keep pace with emerging technological realities, underscoring the importance of proactive preventative measures to safeguard individuals in digital spaces.

The current legal framework to handle hybrid or completely online misbehaviour that would otherwise (in the physical world) be categorised as a criminal activity is insufficient such that they neglect virtual acts of misconduct. The Indian Penal Code[147] and now, the Bhartiya Nyaya Sanhita[148] provide little to no redressal for online harassment. Despite certain judicial interpretations, such as in the *M.M. Harris* v. *State of Kerala*[149] case, where online harassment has been brought within legal purview, there remains a lacuna in these frameworks. Notably, Section 354A[150] of the IPC, which addresses sexual harassment, does not extend to online harassment.

Moreover, the absence of statutory recognition for avatars as legal entities complicates the attribution of vicarious liability, given that avatars lack the conventional principal-agent relationship. Given the rapidly evolving nature of technological advancements, it is imperative that the judiciary adopts a liberal

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Amendment Rules, 2023, Rule 3(b)(xi), Gazette of India, Extraordinary, pt. II, sec. 3(i), Notification No. G.S.R. 133(E) (Feb. 28, 2023).

[146] Chetan Chauhan, *Cybercrimes see highest spike among cognisable offences in 2022, says NCRB*, HINDUSTAN TIMES (Dec. 05, 2023) *available at*: https://www.hindustantimes.com/india-news/cybercrimes-see-highest-spike-among-cognisable-offences-in-2022-says-ncrb-101701714486481.html (last visited Sep. 11, 2024).

[147] Indian Penal Code, No. 45 of 1860, India Code (1860).

[148] The Bharatiya Nyaya Sanhita, 2023 No. 45 of 2023, India Code (2023).

[149] *M.M. Harris* v. *State of Kerala*, (2005) MAD LJ(CRI) 980.

[150] Indian Penal Code, § 354, No. 45 of 1860, India Code (1860).

interpretative approach to ensure that justice is not constrained by outdated legal definitions.[151]

For instance, virtual groping should be subsumed under the definition of acts that outrage the modesty of women as delineated by Section 509 IPC[152], while virtual stalking in VR environments ought to fall within the scope of Section 354D's[153] online stalking provisions. As these offenses unfold in real-time within a visual medium, they should be considered akin to visual images and thus governed by the 'transmit' clause under the Information Technology Act[154].

Thus, the urgency for curative measures, such as enhanced enforcement mechanisms and the imposition of stricter penalties, cannot be overstated in the effort to curtail the escalating incidence of virtual crimes.

### *Distinguishing Skill & Chance in India's legal Framework for Gaming*

Formerly, this paper has discussed that the Online Gaming (Regulation) Bill, 2022[155], fails to draw a distinction between a game of skill and a game of chance**.** A *game of chance* primarily depends on randomness, where the outcome is largely determined by luck or fortune, rather than any control or strategy from the player. On the other hand, a *game of skill* involves a significant element of a player's expertise, experience, and decision-making abilities in determining the outcome. The primary distinction between these two lies in the player's ability to influence the result.[156]

The legal differentiation between these types of games has been a subject of judicial scrutiny in India. In *State of Bombay* v. *R.M.D. Chamarbaugwal,*[157] the Supreme Court clarified that games in which the outcome is predominantly dependent on skill, do not fall under the ambit of gambling, which is prohibited by law.[158] The court ruled that games of skill are legal under Indian law, as they rely on the player's proficiency, whereas games of chance, where the outcome is primarily dictated by luck, are considered gambling and hence illegal in most states.

In distinguishing between games of skill and games of chance, the player's control, predictability of outcomes, and the influence on the final result play key roles. For instance, in skill-based games like chess, a player's decisions and strategies directly impact the outcome, whereas in games of chance like roulette, randomness dictates the result. Predictability also varies—players with experience in games like poker

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[151] Patnaik, *Supra* note 32.
[152] Indian Penal Code, § 509. No. 45 of 1860, India Code (1860).
[153] Indian Penal Code, § 354 D, No. 45 of 1860, India Code (1860).
[154] Information Technology Act, 2000, Bill No. 21 of 2000, India Code (2000).
[155] The Online Gaming (Regulation) Bill, 2022, Bill No. 305 of 2022, Lok Sabha, 17th Sess. Ind.
[156] Wilmer, *Supra* note 33.
[157] *State of Bombay* v. *R.M.D. Chamarbaugwal*, 1957 AIR 699.
[158] Shrivastava and Khan, *Supra* note 141.

or Rummy often perform better, as seen in *Varun Gumber* v. *Union Territory of Chandigarh*[159], while past performance in lotteries holds no relevance to future outcomes.

Outcome influence further highlights the contrast: in a game of chance, the player's actions cease to matter after participation, while in skill-based games, strategies actively shape the result.[160] This distinction was emphasized in *State of Andhra Pradesh* v. *K. Satyanarayana,*[161] where Rummy was deemed a game of skill. Indian courts have even developed a judicial test to classify these games, as illustrated in *K.R. Lakshmanan* v. *State of Tamil Nadu*[162], where the Supreme Court clarified that games of chance rely on consideration, chance, and reward, while games of skill hinge on expertise overriding luck.

### *Game On or Game Over? An Empirical Research to Explore the Gamer's Awareness & Needs*

The rampant usage of online games as a source of entertainment and more seldom than not, income is not unknown to the world, this has transformed the gaming industry into a multifaceted domain that raises various questions. Owing to this evolution of the online gaming industry, a myriad of challenges that necessitate a closer examination of the legal frameworks can be brought forth. This empirical study seeks to explore gamers' awareness and experiences related to these legal frameworks, focusing on their motivations, encounters with legal issues, and perceptions regarding the necessity for regulation.

With 120 responses collected from a diverse group of gamers, the survey aims to provide valuable insights into how players navigate the complex interplay between gaming and law. By understanding gamers' perspectives, we can identify key areas where legal oversight may be beneficial or necessary, ensuring a safer and more equitable gaming environment. The findings of this study will contribute to ongoing research at the intersection of gaming and law, informing policy recommendations that aim to enhance player protection and promote responsible gaming practices.

### *Findings*

The empirical research which has been attempted by people from the age band of 18-24, dominated by responses from males, who prefer a PC or Mobile rather than any other appliance such as Console, or an Apple iPad for gaming which helps us draw a conclusion that gaming, as an activity creates a boundary which only few citizens can jump as of now Because gaming requires special gears to support the

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[159] *Varun Gumber* v. *Union Territory of Chandigarh*, Special Leave Petition (Civil) no. 26642/2017.

[160] Shrivastava and Khan, *Supra* note 141.

[161] *State of Andhra Pradesh* v. *K. Satyanarayana*, 1968 AIR 825.

[162] *K. R. Lakshmanan* v. *State of Tamil Nadu*, 1996 AIR 1153.

visual and sound effects programmed which are considered expensive for a common man.

Though, as of now, only a marginal portion of the population is into gaming, from the responses, the authors anticipate the reach of gaming to be exponential which calls upon for a centralized legislation, considering that almost 40% of the people who responded spend more than five hours on their devices, gaming.

The responses point out towards a broad scope of various purposes of gaming underline the fact of it being a mainstream industry in the near future. Similar to the regime of Instagram Influencers, making audio-video content and uploading it on various platforms, used to be a hobby, but soon, more and more people began monetising Instagram, being an influencer has become a full-time self-employment. Looking at the alarming increase in its demand, there is a need for legislative framework to ensure safeguard, peace, protection and content regulation in a structured manner.

It can be deduced from the responses that in absence of a clear-cut, exhaustive legislation, very few people are aware of the notifications and policies rolled out by the government from time to time. The author is not ignorant to the State legislations which play a significant role in regulating the gaming industry.

However, the authors do contemplate on the adequacy and relevance of the same with this ever-growing industry. The gaming industry requires a dedicated legislation to look after the needs of the gamers and to create enough awareness of the same.

The number of people who responded in affirmative regarding the occurrence of harassment and any breach of their rights are low and the authors reckon that this could either be due to low occurrence of such instances or lack of awareness of users. This gap in the awareness may have left them wondering if the occurrence of a certain activity was violative or not. Offences in the digital space are increasing at a substantial rate and severity of the offence is also alarming.

The UK virtual rape case[163] is just one instance but, there could have been more which may have been left unreported leaving them with the trauma or severe psychological impact. As for our survey takers, some of them faced account bans, gender discrimination, payment issues. In games where auditory contact is established, most survey takers experienced inappropriate language being used, bullying and excessive competitiveness.

Moreover, some survey takers were sensitive enough to have highlighted the bias against the LGBTQIA+ community. Survey takers also reported that they faced account bans for 'no reason'. The authors deduce that the possible reason for an

[163] Desk, *Supra* note 12.

unreasonable account ban could have been that it was indeed unreasonable or, it could possibly be a lack of awareness as to the fact that some actions may be violative of the general code of conduct or 'netiquette'[164].

More than 80% of the survey takers believe that the offender must be punished for its actions. Every action should have an equal and opposite reaction, the 3rd newton's law has its influence everywhere. For any act performed by any individual, they ought to be responsible for its repercussions.

In the metaverse, there is no existence of any individual in person, but they are represented by the respective avatar at any moment and must be liable for its actions. In India, though there are little to no reported instances of crime in the Metaverse, owing to the growing nature of the gaming industry, we must wait for a violation to dawn upon us.

The survey takers are divided in opinion regarding whether the punishment awarded to the offender be given to the person in the game itself or in real life. This makes us question the concept and the status of personhood in the metaverse. The avatar which commits an offence works on the instructions of the gamer or the individual playing the game. It is just like a puppet acting as per the instructions of the individual playing. There does not exist any legal entity of the avatar and therefore it makes it difficult to hold anyone responsible for the same.[165]

In India it is nowhere recognized and hence the need for a regulation arises. The majority opinion believes that the repercussion of the offence must be limited to the metaverse instead of the real world. For that to happen, we require certain regulations or guidelines which will act as a watchdog in such cases. For instance, the UK police has initiated an interrogation for the virtual gang-rape committed in the metaverse.[166] Hence this lacuna must be filled at priority.

The results of this question of whether our survey takers have ever taken any action related to issues regarding gaming (e.g., filed a complaint, written to the developers, sought legal advice reveals that the most common issue faced by gamers is, in-game purchases and loot boxes while privacy and personal information occupy the second place among concerns of the gamers. Some survey takers conveyed that when they filed in-game reports due to account bans or payment failures, it has usually been resolved from the end of the developers. Though online harassment and abuse was also recorded in our responses, it had fewer responses. Therefore, we deduce that the gamers are relatively more aware and concerned about monetary concerns.

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[164] Shing-Ling Sarina Chen, *Netiquette*, BRITANNICA *available at*: https://www.britannica.com/topic/netiquette (last visited Sep. 12, 2024).

[165] Lorena Arismendy Mengual, *Supra* note 65.

[166] Desk, *Supra* note 12.

Finally, the last question in the survey was to evaluate whether introduction of regulations or guidelines would be helpful or not. More than half of the respondents have agreed to follow the regulations laid down in reference to gaming. Hence, we infer that the laws framed would be welcomed and accepted by gamers because of the issues they have faced while gaming, moreover, a legal regulation with regards to gaming it is the need of the hour looking at the repercussions that non-regulation of the metaverse could cause.

# VII

## Conclusion

The metaverse, with its blend of physical and virtual realities, is not just an entertainment frontier but a burgeoning socio-economic and legal landscape. The growing frequency of virtual misconduct, coupled with a surge in cybercrimes, makes it imperative for regulators to craft proactive, adaptive policies. Implementing a regulatory sandbox model could provide an initial framework for safely navigating the metaverse while ensuring robust user protections[167]. Failure to address these legal challenges promptly risks not only exacerbating mental health issues but also deepening societal divides[168].

Considering the rapid evolution of the metaverse and pioneering technologies like VR and AR, traditional legal frameworks ought to face unprecedented challenges of inadequacy, irrelevance and being future-proof. Incidents of virtual crimes, sexual assault among committal of other offenses such those involving cryptocurrencies, intellectual property rights of the avatar, these digital environments, highlight the need for comprehensive legal reforms which are scalable[169]. Current legal framework falls short in addressing the unique complexities of digital spaces specially in matters of enforcement and all-round applicability. These legal gaps, particularly in safeguarding virtual identities and avatars[170], necessitate legislative updates which may extend to a level of a legislative over-haul.

Most of the researchers dwindled down the research on two aspects, primarily the harm principle and secondly one depending upon the wrongfulness or immorality of the act done. The first factor was articulated by John Stuart Mill[171] and the other

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[167] Jacqueline Martinelli, *The Challenges of Implementing a Governing Body for Regulating ESports*, 26 UNIVERSITY OF MIAMI INTERNATIONAL AND COMPARATIVE LAW REVIEW (2019) *available at*: https://repository.law.miami.edu/umiclr (last visited Sep 19, 2024).

[168] González-Tapia, *Supra* note 59.

[169] Gulhane, *et. al.*, *Supra* note 45.

[170] Arismendy Mengual, *Supra* note 65.

[171] John Stuart Mill, ON LIBERTY 8–9 (1859, 1982).

by Joel Fienberg[172]. The only reason behind criminalising the acts of metaverse is to determine whether there was any actual harm or not. Since criminal law vary from one jurisdiction to another, every country, every republic formulates different set of punishments or penalties.[173] Therefore, the major challenge before the policy makers will be categorization of the offences keeping the futuristic aspect in check. It should not be rigid but, it must be clear along with it being open to interpretation in order to cater to quick and evolving nature of the virtual world.

Every mountain has a valley, so does this metaverse. Undoubtedly, it guarantees better living standards but at the same time has dire consequences which must not be ignored. The challenges posed by this new world cannot be undermined. The video games, another world of AR has acquired a major chunk of the market. The cause of concern being the young people out there and the effects it leaves behind on their psyche, adding up impatience, aggression, violence etc.[174] There has been a change in the manner people used to perceive this gaming world, the transition from physical to virtual world has blurred the line of ethics and morals.[175]

The evolution of the metaverse necessitates an agile, forward-thinking legal response that can safeguard users, protect virtual assets, and maintain public trust in this emerging digital frontier. The path forward must include both immediate legal reforms and longer-term regulatory frameworks to ensure a safe and inclusive virtual future.

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[172] Joel Feinberg, THE MORAL LIMITS OF THE CRIMINAL LAW: HARMLESS WRONGDOING xix (1988).

[173] Eldar Haber, *The Criminal Metaverse*, 99 INDIANA L.J. 843 (2023).

[174] Patrick Henz, *The Psychological Impact of the Metaverse*, DISCOV PSYCHOL 2, 47 (2022).

[175] Patrick Henz, *The Societal Impact of the Metaverse*, DISCOV ARTIF INTELL 2, 19 (2022).