



ISSUES THAT NEED TO BE RESOLVED WHEN DEVELOPING THE LEGAL FRAMEWORK OF INTERNATIONAL PRIVATE LAW RELATIONS IN METAVERSE

Jaloliddin Abdusatarov,

4th year student of TASHKENT STATE UNIVERSITY OF LAW

E-MAIL: jaloliddinabdsatarov@gmail.com

Article history:	Abstract:
<p>Received: February 20th 2023 Accepted: March 20th 2023 Published: April 28th 2023</p>	<p>As the Metaverse continues to grow in popularity and functionality, there is a growing need to develop a legal framework that governs international private law relations. Such a framework must address several key issues, including jurisdictional conflicts, cross-border data privacy concerns, intellectual property rights, and contractual disputes. The lack of clarity in these areas can lead to legal uncertainty and hinder the growth of the Metaverse economy. Therefore, it is imperative for policymakers and legal experts to collaborate on developing a comprehensive legal framework that will provide clear guidelines for all stakeholders engaged in Metaverse activities. This annotation highlights the importance of addressing these issues and underscores the need for a collaborative effort in creating an effective legal framework for international private law relations in the Metaverse.</p>

Keywords: Jurisdiction, Cross-border transactions, Intellectual property, Contract enforcement, Data protection and privacy, Liability and responsibility, Dispute resolution mechanisms, Governance and regulation, Compliance and enforcement, Digital identity and authentication.

THE ISSUES OF INTELLECTUAL PROPERTY

As the concept of the metaverse gains traction and continues to evolve, there are a number of complex issues emerging, including the question of intellectual property rights.¹ The metaverse is essentially a shared virtual space that enables people to interact with each other and with digital content in new and immersive ways. However, the nature of the metaverse raises a number of concerns about ownership, control, and theft of intellectual property.

One of the main issues with intellectual property in the metaverse is that it is difficult to define and enforce. Unlike physical goods or even digital files that can be tracked and controlled, virtual assets in the metaverse are essentially data that can be copied and replicated

infinitely. This means that there is a risk of intellectual property infringement, as users can easily duplicate and distribute copyrighted content without the creator's permission.

Another issue is that there is currently no clear legal framework for intellectual property in the metaverse. While some existing laws on copyright and trademark infringement may apply, the unique nature of the metaverse requires new legal solutions that take into account the specific challenges of digital ownership and control.

Additionally, the metaverse is built on user-generated content, which further complicates issues of intellectual property. For example, a user may create a virtual item, such as a piece of clothing or a piece of art, and upload it to the metaverse for others to use or purchase. However, it can be difficult to determine who owns the intellectual property rights to that item, and how those rights can be enforced.

The metaverse is a global phenomenon, and different countries may have different laws and regulations around intellectual property. This can lead to inconsistencies and confusion around what is considered intellectual property infringement in the metaverse.

¹ Lundstedt, Lydia, "Territoriality in Intellectual Property Law - Comparative Study of the Interpretation and Operation of the Territorial Principles in the Settlement of Transboundary Intellectual Property Infringement Disputes with 1633 Proceedings of the 3rd Asia Pacific International Conference on Industrial Engineering and Operations Management, Johor Bahru, Malaysia, September 13-15, 2022.



The issues of intellectual property in the metaverse are complex and multifaceted. As the metaverse continues to evolve, it will be important for creators, users, and policymakers to work together to develop new legal frameworks and solutions that protect intellectual property rights while still allowing for the open and collaborative nature of the metaverse. The Metaverse is a virtual space where people can interact, create, and participate in various activities. With the advent of virtual reality and immersive technology, the Metaverse has become a significant platform for businesses, entertainment, and social interactions.² However, as the Metaverse expands and becomes more prevalent, it brings with it several issues concerning intellectual property.

Intellectual property (IP) refers to creations of the mind, such as inventions, literary and artistic works, symbols, names, and images used in commerce. It provides legal protection for the creators of original works, ensuring they have exclusive rights to use and profit from their creations. The following are some of the challenges that arise with IP in the Metaverse.

A. Ownership and Control of Virtual Assets:

In the Metaverse, users can create and own virtual assets, such as virtual real estate, avatars, and other digital objects. However, there is a lack of clear legal frameworks regarding the ownership and control of these virtual assets. It is unclear whether virtual assets can be considered property under existing laws or if new laws need to be created to address this issue. The concept of virtual assets is not new, but with the advent of the metaverse, the ownership and control of these assets have become a topic of great concern. The metaverse is a digital world where people can interact, create and trade virtual assets, such as virtual real estate, digital art, and even virtual currencies. While this presents a new and exciting opportunity for individuals and businesses, it also poses some significant challenges regarding ownership and control. One of the key issues with virtual assets is that there is often a lack of clarity around who owns

them. In the real world, ownership of assets is typically defined by laws and regulations. However, in the metaverse, there is no universally accepted legal framework for defining ownership, making it challenging to establish clear ownership rights. This lack of clarity can lead to disputes over who owns specific virtual assets, particularly when they have significant value. Another issue related to ownership is the fact that virtual assets are often created by users within the metaverse itself. This raises questions about who owns the rights to these assets, particularly when they are created using tools or resources provided by the metaverse owner. For example, if a user creates a piece of virtual art using tools provided by the metaverse, who owns the copyright to that artwork? Is it the user who created it, or the metaverse owner who provided the tools?

Control is another significant issue when it comes to virtual assets. In the real world, ownership typically confers a significant degree of control over an asset. However, in the metaverse, ownership and control are often separate. For example, a user may own a piece of virtual real estate, but the metaverse owner may still be able to dictate how that property is used or accessed. This lack of control can limit the value of virtual assets, particularly when their value is tied to specific use cases or applications. Additionally, the metaverse is often operated by a single company or entity, which can exert significant control over the entire ecosystem.³ This control can create significant power imbalances, particularly when it comes to deciding who can create, trade, or use virtual assets within the metaverse. Without clear regulations and oversight, the metaverse could become a centralized and monopolistic system, limiting the potential for innovation and competition. ownership and control of virtual assets are significant issues in the metaverse. Without clear regulations and legal frameworks, it will be challenging to establish ownership rights or prevent monopolistic control of the

² Beioly, Kate, "Metaverse vs. Employment Law: The Reality of the Virtual Workplace", available <https://www.ft.com/content/9463ed05-c847-425d-9051-482bd3a1e4b1>, accessed August 8 2022.

³ Chayka, K. We already live in Facebook's metaverse The New Yorker, available <https://www.newyorker.com/culture/infinite-scroll/we-already-live-in-facebooks-metaverse>, accessed August 8 2022.



ecosystem. To ensure that the metaverse remains a decentralized, innovative space, it is essential to address these issues proactively, with the input and collaboration of all stakeholders involved.

B. Copyright Infringement: The Metaverse has made it easy for users to create and share content. However, this also means that copyrighted materials, such as music, movies, and images, can be easily reproduced and distributed without permission. This can lead to copyright infringement and loss of revenue for the original creators. Issues of copyright infringement are becoming more prevalent. The metaverse is a virtual space where users can interact with each other and digital content. It includes virtual reality, augmented reality, and other immersive digital experiences. However, with the increased accessibility and ease of creating and sharing digital content, the issue of copyright infringement is becoming a major concern in the metaverse. Copyright infringement is the unauthorized use of someone else's intellectual property, such as music, images, videos, and other creative works. In the metaverse, users can easily create and share their own digital content, but they may also unwittingly or intentionally infringe on the copyright of others. This is particularly true when users create virtual representations of copyrighted works, such as 3D models of characters from movies or TV shows, or replicas of real-world buildings and landmarks. One of the challenges of copyright infringement in the metaverse is that the virtual environment is not subject to the same laws and regulations as the physical world. For example, in the physical world, there are copyright laws that protect the use of someone else's creative work. However, in the metaverse, there is no clear legal framework for regulating copyright infringement. This creates a gray area where users may be unsure of what is legal and what is not. Another challenge is that the metaverse is a global platform, with users from all over the world. This means that copyright laws may vary from country to country, making it difficult to establish a universal standard for copyright infringement in the metaverse. Furthermore, the anonymity of users in the metaverse can make it difficult to identify and prosecute individuals who are engaging in copyright infringement. To

address these challenges, some companies and organizations are developing tools and technologies to help prevent copyright infringement in the metaverse. For example, some platforms are implementing systems that can detect and remove copyrighted content automatically. Other companies are developing blockchain-based systems to provide a more secure and transparent way of tracking ownership and usage rights of digital content. Copyright infringement is a complex and challenging issue in the metaverse. As the metaverse continues to grow and evolve, it is important for stakeholders to work together to develop effective strategies and solutions for protecting intellectual property in this new digital landscape. This will help ensure that creators and owners of digital content can continue to reap the benefits of their hard work while also promoting innovation and creativity in the metaverse.

C. Trademark Infringement: The Metaverse also presents challenges for trademark owners. The use of trademarks in virtual environments can create confusion among consumers, leading to trademark infringement. Additionally, the use of trademarks by third parties without authorization can dilute the value of the trademark and harm the reputation of the owner. The issue of trademark infringement has become a pressing concern for businesses. Trademark infringement occurs when a company or individual uses a trademark that belongs to another company without permission. In the metaverse, this can take many forms. For example, a business may create a virtual storefront that mimics the look and feel of a real-world brand, or a user may create an avatar that closely resembles a trademarked character. One of the main challenges with trademark infringement in the metaverse is that it can be difficult to track down and enforce. The metaverse is a vast and complex network of virtual worlds, and it can be challenging for businesses to monitor every instance of trademark infringement. Additionally, the anonymity of the internet makes it easy for infringers to hide their true identity and avoid detection. Another challenge is the lack of clear legal precedent in the metaverse. While some legal frameworks exist for regulating virtual worlds, there is still a great deal of ambiguity



around issues like intellectual property and trademark infringement. This can make it difficult for businesses to know how to protect their trademarks and enforce their rights. There are also unique challenges to enforcing trademark rights in the metaverse. For example, it may be difficult to prove that a trademark infringement has caused harm to a brand's reputation or profits. Additionally, because the metaverse is a global network, it can be challenging to navigate different legal systems and enforce trademark rights across borders. To address these challenges, businesses can take a number of steps to protect their trademarks in the metaverse. One approach is to actively monitor the metaverse for instances of trademark infringement, using tools like image recognition software and search algorithms to identify potential infringements. Businesses can also work with virtual world creators to establish clear guidelines around the use of trademarks, and can collaborate with other businesses to share information and resources for enforcing trademark rights. Ultimately, the issue of trademark infringement in the metaverse is a complex and evolving one. As the metaverse continues to grow in popularity, it will be important for businesses and legal experts to work together to establish clear rules and regulations around the use of trademarks in virtual worlds.

D. Identity Theft: In the Metaverse, users can create digital representations of themselves, known as avatars. However, this also creates opportunities for identity theft. In some cases, individuals may create avatars that resemble real people without their permission, leading to issues related to privacy and reputation.⁴ Identity theft in the metaverse, the virtual world that is becoming increasingly popular, is a growing concern for many users. With the advent of blockchain technology and the widespread adoption of cryptocurrencies, virtual identities and assets have become valuable targets for hackers and cybercriminals. One of

the major issues of identity theft in the metaverse is the lack of regulation and security measures in place to protect users. As the metaverse operates in a decentralized and anonymous environment, it can be difficult to identify and track down perpetrators of cybercrime⁵. Additionally, users often have a false sense of security in the metaverse, believing that their virtual identities and assets are safe from theft due to the absence of physical presence. Another issue is the ease of creating fake accounts and impersonating real users. Cybercriminals can use stolen personal information to create a fake identity and access the victim's virtual assets, or they can simply create a fake account using the victim's name and reputation. Once a fake account is created, it can be used to scam other users or conduct illegal activities, leaving the victim with a damaged reputation and financial loss. Moreover, the transfer of virtual assets is often done through unregulated marketplaces and platforms, which can leave users vulnerable to theft and fraud. These marketplaces are often unsecured and do not provide adequate protection for users' virtual assets, making it easy for hackers to steal and sell them on the dark web. To address these issues, it is essential for the metaverse to implement stronger security measures and regulation. This includes identity verification protocols, secure marketplaces, and improved encryption techniques. Furthermore, users should be encouraged to practice safe online behavior, such as avoiding suspicious links and not sharing personal information online.

Identity theft in the metaverse is a growing concern that requires immediate attention. By implementing stronger security measures and educating users on safe online behavior, we can create a safer and more secure virtual world for all.

E. Licensing and Royalties: In the Metaverse, creators of virtual assets, such as games, music, and movies, may need to obtain licenses and pay royalties to copyright and trademark owners. However, the lack of clear legal

⁴ Leenes, Ronald. "Privacy in the Metaverse." IFIP International Summer School on the Future of Identity in the Information Society, vol, 32, no, 1, pp. 95–112, 2007.

⁵ Turdialiev, M. (2023). Legal Discussion of Metaverse Law. *International Journal of Cyber Law*, 1(3). <https://doi.org/10.59022/ijcl.36>



frameworks and standards can make it challenging to determine the appropriate fees and royalties to pay.⁶

The issues of intellectual property in the Metaverse are complex and multifaceted. As the Metaverse continues to grow, it will be crucial to establish clear legal frameworks and standards to address these issues and ensure that creators and owners of intellectual property are protected.

THE ISSUES OF DATA PROTECTION AND PRIVACY

The metaverse is a term used to describe a virtual world created by the convergence of digital and physical realities. It is a concept that has gained significant attention in recent years, and many believe it has the potential to revolutionize the way we interact with each other and technology. However, as with any new technology, there are concerns regarding data protection and privacy in the metaverse. One of the primary issues with data protection and privacy in the metaverse is the collection and use of personal data. As users engage with the virtual world, they are often required to provide personal information such as their name, email address, and even their physical location. This data can be used by companies and organizations to target users with personalized advertisements or even sold to third parties for profit. Another concern is the potential for cybercrime in the metaverse. As the virtual world becomes more integrated into our daily lives, it may become a target for cybercriminals who seek to exploit vulnerabilities in the system to gain access to personal data or steal virtual assets. In addition to these concerns, there is also the issue of data ownership in the metaverse. As users create virtual content and assets, such as virtual real estate or digital clothing, it is unclear who owns the rights to this content. This can lead to disputes over ownership and potential legal battles in the future. To address these issues, it is important for companies and organizations operating in the metaverse to implement strong data protection and privacy policies. This includes being transparent about how user data is collected and used, implementing strong security measures to protect against cyber threats, and developing clear guidelines for data ownership and intellectual property rights. Users of the metaverse can also take steps to protect their data and

privacy, such as being cautious about what personal information they share, using strong passwords and two-factor authentication, and reporting any suspicious activity to the relevant authorities. While the metaverse has the potential to revolutionize the way we interact with technology and each other, it is important to address the issues of data protection and privacy to ensure a safe and secure virtual world for all users.

A. Data collection: As users interact with various virtual environments and engage with other players in the metaverse, a vast amount of personal data can be collected, including biometric data, location information, and behavioral patterns. This data can be used by companies to track user behavior and target them with personalized ads or even sell the data to third-party advertisers.

The Metaverse is a virtual world that has been gaining popularity in recent years. As people spend more time in the Metaverse, data collection has become a major concern. The Metaverse is a vast landscape of data, and collecting and analyzing this data is essential for improving user experience, developing new applications, and identifying emerging trends. However, there are several issues related to data collection in the Metaverse that need to be addressed to ensure the privacy and security of users. One of the primary issues related to data collection in the Metaverse is the lack of clear regulations and standards. The Metaverse is still a relatively new concept, and there are no established rules governing data collection and usage. This makes it difficult to know what data can be collected, how it can be used, and who has access to it. Without clear regulations and standards, it is challenging to ensure that user privacy is protected. Another issue related to data collection in the Metaverse is the potential for data breaches. The Metaverse is a vast and complex network of data, and it is vulnerable to cyberattacks. Hackers can gain access to user data and use it for malicious purposes. This can lead to identity theft, financial fraud, and other forms of cybercrime. Data breaches can also damage the reputation of the Metaverse and erode user trust. Data collection in the Metaverse also raises concerns about surveillance and tracking. As users navigate the virtual world, they leave behind a trail of data that can be used to monitor their activities. This data can be used to track user behavior,

⁶ Park, Sang Min, and Young Gab Kim. "A Metaverse: Taxonomy, Components, Applications, and Open Challenges." *IEEE Access*, vol, 10, no, 1, PP. 51-420, 2022.



preferences, and habits. This raises questions about how this data is being used and who has access to it. It also raises concerns about potential abuses of power and violations of user privacy.

Finally, data collection in the Metaverse raises questions about consent and transparency. Users need to know what data is being collected, how it is being used, and who has access to it. Without this information, users cannot make informed decisions about whether to participate in the Metaverse or not. Transparency and clear communication are essential for building trust with users. Data collection is an essential part of the Metaverse, but it is also fraught with challenges and risks. Clear regulations and standards, robust security measures, transparency, and user consent are essential for protecting user privacy and ensuring that the Metaverse is a safe and trustworthy space. As the Metaverse continues to evolve, it is crucial to address these issues to build a better future for virtual reality.⁷

B. Data security: The metaverse relies heavily on online connectivity and communication, which means that there is a risk of hacking and cyberattacks. If user data is compromised, it can have severe consequences, including identity theft, financial loss, and reputational damage. As the metaverse becomes an increasingly popular space for social interaction, commerce, and entertainment, the issue of data security is becoming more important than ever. The metaverse is a virtual world where users can interact with each other in a variety of ways, including through avatars, virtual marketplaces, and virtual games. However, with this increased level of interaction comes an increased risk of data breaches and other security threats. One of the main issues with data security in the metaverse is the collection and storage of personal data. Many virtual platforms require users to create accounts and provide personal information such as names, email addresses, and even credit card information. This data is often stored on servers controlled by the platform, and it can be vulnerable to hacking

and other cyber attacks. Another issue with data security in the metaverse is the potential for identity theft. Users may create avatars and personas that are very different from their real-life identities, but if their personal data is compromised, it can be used to steal their real-life identities. This can lead to financial losses, damage to credit scores, and other serious consequences. In addition, the metaverse presents new opportunities for social engineering attacks. Social engineering is a technique that involves manipulating people into revealing sensitive information or performing actions that are not in their best interest. In the metaverse, social engineering attacks could take the form of phishing scams, fake marketplaces, or other deceptive tactics.

Finally, there is the issue of data privacy in the metaverse. Users may not be aware of how their data is being collected and used by the platforms they use. They may not understand the implications of sharing personal information with virtual strangers or with virtual marketplaces. This lack of awareness can lead to unintended consequences, such as targeted advertising or even the sale of personal data to third-party companies. To address these issues, it is important for virtual platforms to take data security seriously. This means implementing robust security measures to protect user data, including encryption, firewalls, and other advanced technologies.⁸ It also means educating users about the risks of sharing personal data and providing them with the tools and resources they need to protect themselves. Ultimately, the success of the metaverse will depend on the ability of users and platform providers to work together to create a safe and secure virtual environment. By taking data security seriously and implementing best practices for data protection, we can help ensure that the metaverse remains a vibrant and thriving space for years to come.

C. Ownership and control of data: Who owns the data generated in the metaverse? Is it the user, the platform, or the game developers? This question becomes more complex as the

⁷ Michael Zyda, "Let's Rename Everything 'the Metaverse!,'" IEEE Computer Society, vol, 55, no.,3, pp. 124– 29, 2022.

⁸ Wen-xi Wang, "A Survey of Metaverse Technology." Chinese Journal of Engineering, vol, 44, no, 4, pp. 56-74, 2022.



lines between the physical world and the virtual world blur, and it becomes unclear where one's data resides and who has access to it. As the metaverse continues to expand and evolve, the issues of ownership and control of data have become increasingly significant. The metaverse is a virtual space where people can engage in a variety of activities, including gaming, socializing, and commerce. The data generated by these activities can be valuable for a variety of purposes, including advertising, market research, and product development. However, the question of who owns and controls this data is a contentious one. One of the main issues with ownership and control of data in the metaverse is that the data generated by users is often owned by the platforms on which it is created. For example, when users play a game in the metaverse, the data generated by their gameplay, such as their scores, achievements, and interactions with other players, are typically owned by the game's developer or platform. This means that users may not have control over how their data is used or shared. Another issue with ownership and control of data in the metaverse is the potential for data breaches and hacking. The metaverse is a vast, interconnected network of platforms and systems, which makes it vulnerable to cyberattacks. If user data is not properly secured, it can be compromised, leading to identity theft, financial fraud, and other types of cybercrime. Additionally, the use of artificial intelligence (AI) in the metaverse presents new challenges for ownership and control of data. As AI becomes more advanced, it may be able to analyze and use data in ways that users never anticipated. This raises questions about who owns the insights and value generated by AI-powered analysis of user data.

Finally, there are concerns about privacy in the metaverse. Users may feel uncomfortable sharing personal information about themselves or their activities in the metaverse, but they may be required to do so in order to participate in certain activities or access certain features. This creates a tension between the desire for privacy and the need to share data in order to fully engage with the metaverse. Ownership and control of data in the metaverse is a complex and evolving issue. As the metaverse continues to grow and become more integrated into our

daily lives, it will be important to address these issues in a thoughtful and proactive manner in order to ensure that user data is protected, and that users have control over how their data is used and shared.⁹

D. Informed consent: It is essential to ensure that users understand what data is being collected, why it is being collected, and how it will be used. However, obtaining informed consent can be challenging in the metaverse, where users may be more focused on their virtual experiences than on privacy policies.

The metaverse is a virtual reality space where users can interact with a computer-generated environment and other users in real-time. As this technology continues to develop, there are growing concerns about the issues of informed consent in the metaverse. Informed consent is a critical aspect of any medical or research procedure where a participant must understand the risks, benefits, and alternatives before making an informed decision. In the metaverse, users are not only consumers of content but also creators of content. As such, informed consent becomes crucial in ensuring that users understand the implications of their actions and interactions in the virtual world. One of the primary concerns with informed consent in the metaverse is the issue of data privacy. Many metaverse platforms collect user data, including personal information, behavioral patterns, and preferences. However, users may not be aware of the extent to which their data is collected or how it will be used. This lack of transparency can lead to unintended consequences, such as the misuse of personal information or the creation of biased algorithms. Another issue with informed consent in the metaverse is the potential for harm to users. For example, users may be exposed to violent or sexual content without their explicit consent. Additionally, virtual reality experiences can create a sense of immersion that may blur the line between reality

⁹ Ryan Faughnder, "Former Disney chair Bob Iger invests in metaverse company Genies" (14 March 2022) Los Angeles Times <<https://www.latimes.com/entertainment-arts/business/story/2022-03-14/former-disney-chair-bob-iger-invests-in-metaverse-company-genies>> (accessed 26 March 2022).



and fiction, leading to negative psychological effects. The issue of informed consent in the metaverse is further complicated by the global nature of the technology. Different countries have varying laws and regulations concerning data privacy, user protection, and informed consent. As such, it can be challenging to establish universal standards for informed consent that apply across all metaverse platforms. To address these issues, metaverse developers must prioritize transparency and education for users. Platforms should be required to provide clear information about how user data is collected and used, as well as mechanisms for users to control their data. Additionally, users should be provided with clear warnings and options to opt-out of potentially harmful experiences.

Informed consent is a crucial aspect of the metaverse that must be addressed as the technology continues to develop. Developers must prioritize user education and transparency to ensure that users are fully informed about the risks and benefits of their actions and interactions in the virtual world.

E. The right to be forgotten: In some jurisdictions, individuals have the right to have their personal data erased under certain circumstances. However, it may be difficult to enforce this right in the metaverse, where data may be spread across multiple platforms and stored in decentralized systems.¹⁰

The metaverse, a virtual world created by the convergence of digital and physical reality, is a rapidly growing space with many exciting possibilities. However, as with any new technology, there are also concerns and issues that need to be addressed. One of the most pressing issues is the right to be forgotten. The right to be forgotten is a legal concept that allows individuals to request the removal of their personal information from public platforms, particularly from search engines. In the metaverse, this issue is particularly complex due

to the unique nature of the virtual world. There are a number of challenges that need to be addressed in order to ensure that the right to be forgotten is respected in this new space. One of the main challenges is the sheer scale of the metaverse. With millions of users and billions of pieces of data, it can be difficult to keep track of who has access to what information. This means that it may be difficult to identify and remove personal information that has been posted without consent. Another challenge is the lack of clear regulations around data privacy and protection in the metaverse. While some platforms may have their own rules and guidelines, there is no overarching legal framework to ensure that users' rights are protected. There is also the issue of digital identity. In the metaverse, users may create multiple personas or avatars, each with their own set of personal information. This can make it difficult to know which persona is associated with which individual, and which pieces of personal information should be removed. Finally, there is the question of whether the right to be forgotten is even possible in the metaverse. Unlike in the physical world, where information can be deleted or destroyed, data in the metaverse is stored indefinitely in virtual servers. This means that even if personal information is removed from one platform, it may still exist on another. In order to address these challenges, there needs to be a concerted effort from all stakeholders in the metaverse, including platform owners, policymakers, and users themselves. Some possible solutions include the development of clear regulations around data privacy and protection, the creation of tools to help users manage their digital identities, and the implementation of technical measures to ensure that personal information is only accessible to authorized users. Overall, the right to be forgotten is an important issue in the metaverse that needs to be addressed in order to ensure that users' privacy and autonomy are respected. By working together, stakeholders in the metaverse can create a safe and secure virtual world that is respectful of individuals' rights and freedoms.¹¹

¹⁰ Milgram, P.; Takemura, H.; Utsumi, A.; Kishino, F. Augmented reality: A class of displays on the reality-virtuality continuum. In *Telem manipulator and Telepresence Technologies, Proceedings of the Photonics for Industrial Applications*, pp. 282–292. Boston, USA, October-November 1994.

¹¹ Mystakidis, S., Metaverse. *Encyclopedia*, vol. 2, no.1, pp. 486-497, 2002.



F. Discrimination and bias: The use of artificial intelligence and machine learning algorithms in the metaverse can result in discriminatory practices, particularly if these algorithms are trained on biased datasets. This can have significant implications for individuals' privacy and can perpetuate existing inequalities.

The metaverse, a term used to describe a virtual space where users can interact with each other in a simulated environment, has the potential to create a more inclusive and diverse community. However, like any other online space, the metaverse is not immune to issues of discrimination and bias. One of the primary concerns is the potential for discrimination based on the physical appearance of a user's avatar. Users may be discriminated against based on their race, gender, or even their choice of clothing. This can lead to a lack of diversity in the metaverse and an exclusionary atmosphere for those who do not conform to certain societal norms. Another issue is the lack of representation for marginalized communities within the metaverse. For example, if there is no representation of people with disabilities, they may feel excluded from the community. Similarly, if there are no virtual spaces for certain cultural groups, they may feel left out. Additionally, the anonymity of the metaverse can create a breeding ground for hate speech and harassment. Users may feel emboldened to engage in discriminatory behavior without fear of consequences or repercussions. This can lead to a toxic environment for marginalized communities and further perpetuate bias. To address these issues, developers of the metaverse must prioritize diversity and inclusivity in their design and implementation. This can include creating a range of avatars that represent a diverse set of physical appearances, providing safe spaces for marginalized communities, and implementing mechanisms to address hate speech and harassment. Furthermore, it is essential to educate users on the importance of respect and inclusivity in the metaverse. This can include implementing training programs for users on how to recognize and address discriminatory behavior, as well as creating community guidelines that emphasize inclusivity and respect for all users. The metaverse has the potential to create a more inclusive and diverse community. However, it is

essential to address the issues of discrimination and bias to ensure that all users feel welcome and valued in the virtual space. By prioritizing diversity and inclusivity in design and implementation and educating users on the importance of respect and inclusivity, we can create a metaverse that reflects the values of a truly inclusive society.

G. Child protection: The metaverse may attract a significant number of younger users, who may not fully understand the risks associated with online behavior. It is essential to ensure that appropriate safeguards are in place to protect children's privacy and prevent them from being exploited or harmed.

The emergence of the metaverse has brought about a new set of challenges in terms of child protection. The metaverse refers to a virtual reality space where individuals can interact with each other and with digital objects in a seemingly real environment. While the metaverse presents exciting opportunities for creativity and socialization, it also poses significant risks for children. One of the main issues of child protection in the metaverse is the potential for online grooming and exploitation. Predators can easily use the anonymity of the virtual world to target children and establish relationships with them. They may use various tactics to gain their trust, such as offering virtual gifts, inviting them to secret locations, or promising them rewards in exchange for sexual favors. Another concern is cyberbullying.¹² In the metaverse, children may be subject to harassment, humiliation, and exclusion from social groups. This can have a significant impact on their mental health and wellbeing, leading to depression, anxiety, and even suicide in extreme cases. Moreover, there is a risk of exposure to inappropriate content. Children may encounter violent or sexual imagery, hate speech, and other forms of harmful content in the metaverse. This can desensitize them to violence, perpetuate harmful stereotypes, and contribute to the normalization of negative

¹² De Stefano, Valerio, Charalampos Stylogiannis, Mathias Wouters, Ilda Durri, "Upgrading protection against cyberbullying and ICT-enabled violence and harassment in the world of work" Ilo Working Paper, vol, 33, no, 2, pp. 1-30, 2018.



behaviors. Another issue of child protection in the metaverse is the potential for addiction. As with any online activity, children can become addicted to the metaverse, spending excessive amounts of time in the virtual world to the detriment of their social and academic lives. To address these issues, it is essential to implement robust child protection policies in the metaverse. This includes measures such as age verification, content moderation, and reporting mechanisms for inappropriate behavior. It is also crucial to educate children and their parents about the risks associated with the metaverse and provide them with tools and resources to navigate the virtual world safely. Child protection in the metaverse is a complex issue that requires careful consideration and proactive action. By working together, we can ensure that children can enjoy the benefits of the virtual world while also protecting them from harm.

In summary, data protection and privacy in the metaverse are complex issues that require careful consideration to ensure that users' rights are protected. It is essential to strike a balance between innovation and privacy to create a safe and trustworthy metaverse.

THE ISSUES OF FULFILLING CONTRACTUAL OBLIGATIONS IN METAVERSE

The metaverse is a virtual world that has been gaining popularity in recent years. It is a space where individuals can create digital avatars¹³, interact with each other, buy and sell virtual assets, and participate in various activities. With the rise of blockchain technology and the popularity of cryptocurrencies, the metaverse has become an attractive destination for businesses and individuals looking to engage in digital commerce. However, with the growing interest in the metaverse comes the issue of fulfilling contractual obligations. In the physical world, contracts are legally binding agreements between parties that outline specific terms and conditions for the exchange of goods or services. However, in the metaverse, the enforceability of contracts is still unclear. One of the main challenges is the lack of a centralized governing body in the

metaverse. Unlike the physical world, there is no government or regulatory authority that can enforce contracts and resolve disputes. This lack of a central authority makes it difficult to hold parties accountable for their contractual obligations. Another challenge is the difficulty of verifying identities in the metaverse. In the physical world, individuals can provide government-issued identification to verify their identity. However, in the metaverse, individuals can create multiple digital identities, making it challenging to ensure that the parties to a contract are who they claim to be. In addition to these challenges, there are also technical issues that can arise when fulfilling contractual obligations in the metaverse. For example, virtual assets such as digital currencies and virtual real estate can be subject to hacking, theft, and other forms of fraud. These risks can make it difficult for parties to fulfill their contractual obligations, particularly when it comes to the exchange of virtual assets. To address these challenges, some experts have proposed the use of smart contracts in the metaverse. Smart contracts are self-executing contracts that are programmed to automatically fulfill contractual obligations when specific conditions are met. Smart contracts can be used to automate transactions, verify identities, and ensure the secure exchange of virtual assets. However, while smart contracts offer a promising solution to the challenges of fulfilling contractual obligations in the metaverse, they are not without their limitations. For example, smart contracts are only as secure as the underlying blockchain technology that powers them. If the blockchain is hacked or compromised, the smart contract may also be compromised. While the metaverse offers exciting opportunities for digital commerce, fulfilling contractual obligations in this virtual world poses significant challenges. The lack of a centralized governing body, the difficulty of verifying identities, and technical issues such as fraud and hacking all make it difficult to ensure that parties fulfill their contractual obligations. While the use of smart contracts offers a promising solution, it is essential to address the underlying technical and regulatory challenges to ensure that the metaverse can fulfill its potential as a digital commerce destination. Fulfilling contractual obligations in the metaverse can be a complex and challenging process. Here are some of the key issues that may arise:

1. **Lack of Legal Framework:** Currently, there is no comprehensive legal framework that governs transactions in the metaverse. This makes it difficult to establish clear contractual obligations and enforce them.

¹³ Tiffany Day, "Avatar Rights in a Constitutionless World" (2009) 32(1) *Hastings Communications and Entertainment Law Journal* 137–156; Bettina M Chin, "Regulating Your Second Life: Defamation in Virtual Worlds" (2007) 72(4) *Brooklyn Law Review* 1303–1349



2. **Difficulty in Enforcing Contracts:** Enforcing contracts in the metaverse can be challenging, as there is no centralized authority that can ensure compliance. This makes it challenging to hold parties accountable for their contractual obligations.
3. **Complexity of Contracts:** Contracts in the metaverse may be more complex than traditional contracts, as they may involve digital assets and virtual property. This can make it difficult to establish clear terms and obligations.
4. **Lack of Standardization:** There is currently no standardization for contracts in the metaverse, which can lead to confusion and disputes. Different platforms may have different requirements and processes for entering into and enforcing contracts.
5. **Risk of Fraud:** There is a risk of fraud in the metaverse, as transactions may be anonymous and difficult to trace. This can make it challenging to determine whether a party has fulfilled their contractual obligations.
6. **Technical Limitations:** Technical limitations in the metaverse, such as network downtime or glitches, may interfere with the ability to fulfill contractual obligations. This can lead to delays and disputes.
7. **Cultural and Linguistic Differences:** As the metaverse is a global platform, parties may come from different cultural and linguistic backgrounds. This can lead to misunderstandings and difficulties in fulfilling contractual obligations.

Overall, fulfilling contractual obligations in the metaverse requires careful consideration of these and other potential issues. Parties should work to establish clear terms and agreements, as well as to understand the unique challenges and risks of the metaverse.¹⁴

IN CONCLUSION,

developing the legal framework of international private law relations in the metaverse presents a number of challenges and issues that need to be addressed. These challenges include determining the jurisdictional scope of the law, regulating property rights, enforcing

contracts, protecting intellectual property, and ensuring the security and privacy of users.

To overcome these challenges, it is essential to develop a comprehensive and flexible legal framework that takes into account the unique characteristics of the metaverse, such as its decentralization, virtuality, and global reach. This framework should be based on clear and consistent principles, including international human rights standards, and should be subject to regular review and adaptation to ensure its ongoing relevance and effectiveness.

Ultimately, the development of a robust legal framework for international private law relations in the metaverse is critical to the success and sustainability of this emerging digital space. By addressing these issues and creating a reliable and transparent legal environment, we can promote innovation, growth, and social welfare in the metaverse, while safeguarding the rights and interests of all users.

REFERENCES:

1. De Stefano, Valerio, Charalampos Stylogiannis, Mathias Wouters, Ilda Durri, "Upgrading protection against cyberbullying and ICT-enabled violence and harassment in the world of work" Ilo Working Paper, vol, 33, no, 2, pp. 1-30, 2018.
2. Leenes, Ronald. "Privacy in the Metaverse." IFIP International Summer School on the Future of Identity in the Information Society, vol, 32, no, 1, pp. 95-112, 2007
3. Lundstedt, Lydia, "Territoriality in Intellectual Property Law - Comparative Study of the Interpretation and Operation of the Territorial Principles in the Settlement of Transboundary Intellectual Property Infringement Disputes with 1633 Proceedings of the 3rd Asia Pacific International Conference on Industrial Engineering and Operations Management, Johor Bahru, Malaysia, September 13-15, 2022
4. Beiol, Kate, "Metaverse vs. Employment Law: The Reality of the Virtual Workplace", available <https://www.ft.com/content/9463ed05-c847-425d-9051-482bd3a1e4b1>, accessed August 8 2022.
5. Chayka, K. We already live in Facebook's metaverse The New Yorker, available <https://www.newyorker.com/culture/infinite-scroll/we-already-live-in-facebooks-metaverse>, accessed August 8 2022.

¹⁴ 10. Christopher, J. Cifrino, "No Virtual Property, Virtual Rights: Why Contract Law, Not Property Law, Must Be the Governing Paradigm in the Law of Virtual Worlds," Boston College Law Review, vol. 55, no. 1, pp. 235-264, 2014.



6. Michael Zyda, "Let's Rename Everything 'the Metaverse!,'" *IEEE Computer Society*, vol, 55, no.,3, pp. 124– 29, 2022.
7. Mystakidis, S., *Metaverse. Encyclopedia*, vol. 2, no.1, pp. 486-497, 2002.
8. Park, Sang Min, and Young Gab Kim. "A Metaverse: Taxonomy, Components, Applications, and Open Challenges." *IEEE Access*, vol, 10, no, 1, PP. 51-420, 2022.
9. Wen-xi Wang, "A Survey of Metaverse Technology." *Chinese Journal of Engineering*, vol, 44, no, 4, pp. 56- 74, 2022.
10. Christopher, J. Cifrino, "No Virtual Property, Virtual Rights: Why Contract Law, Not Property Law, Must Be the Governing Paradigm in the Law of Virtual Worlds," *Boston College Law Review*, vol. 55, no. 1, pp. 235-264, 2014.
11. Milgram, P.; Takemura, H.; Utsumi, A.; Kishino, F. *Augmented reality: A class of displays on the reality-virtuality continuum*. In *Telemanipulator and Telepresence Technologies, Proceedings of the Photonics for Industrial Applications*, pp. 282–292. Boston, USA, October-November 1994.
12. Philipp A. Rauschnabela, et al. "What Is XR? Towards a Framework for Augmented and Virtual Reality." *Computers in Human Behavior*, vol, 133, no, 1, pp. 1-18, 2022.
13. Tiffany Day, "Avatar Rights in a Constitutionless World" (2009) 32(1) *Hastings Communications and Entertainment Law Journal* 137–156; Bettina M Chin, "Regulating Your Second Life: Defamation in Virtual Worlds" (2007) 72(4) *Brooklyn Law Review* 1303–1349; Greg Lastowka and Dan Hunter, "The Laws of the Virtual Worlds" (2004) 92(1) *California Law Review* 1–77.
14. Ryan Faughnder, "Former Disney chair Bob Iger invests in metaverse company Genies" (14 March 2022) *Los Angeles Times* <<https://www.latimes.com/entertainment-arts/business/story/2022-03-14/former-disney-chair-bob-iger-invests-in-metaverse-company-genies>> (accessed 26 March 2022).
15. Matthew Sparkes, "What is a metaverse" (2021) 251 *New Scientist*, 3348, p 18.
16. Turdialiev, M. (2023). *Legal Discussion of Metaverse Law*. *International Journal of Cyber Law*, 1(3). <https://doi.org/10.59022/ijcl.36>.