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Article

Research on Identity Ethics and the Reconstruction of Social Relationships in Metaverse Virtual Spaces

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Abstract: In the era of the Metaverse, identity construction and the reconstruction of social relationships in virtual spaces have become an increasingly important and complex field of academic research. This study aims to comprehensively explore the multifaceted ethical issues related to user identity in Metaverse virtual spaces and their profound impact on contemporary social relationships. With rapid technological development, users' identities in virtual environments are no longer strictly limited to their real-life physical selves; instead, they are diversely constructed and continuously modified through advanced digital means. This unprecedented trend has inevitably given rise to numerous critical ethical issues, such as identity theft, the deliberate dissemination of false identities, and their detrimental impact on fundamental trust within digital social networks. Furthermore, novel interaction patterns in virtual spaces have fundamentally changed the formation, evolution, and maintenance of traditional social relationships. Consequently, users' behavioral expressions and intricate social network relationships within these emerging virtual communities need to be rigorously reexamined. Through a robust combination of qualitative and quantitative research methods, this study conducts an in-depth, systematic analysis of the ethical challenges surrounding identity construction in Metaverse environments. It further evaluates their direct impact on the redefinition of interpersonal relationships, ultimately aiming to provide solid theoretical support and actionable practical guidance for future virtual space design, ethical framework development, and effective user governance.

Keywords: metaverse; virtual space; identity ethics; social relationships; digital identity; cyber ethics

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1. Introduction

1.1. Research Background

With the rapid development of information technology, the concept of new types of virtual spaces such as the Metaverse has gradually entered the public view and become a hot topic of common concern in both academia and industry. As a digital environment with a highly immersive experience, the Metaverse has become an important medium for human social interaction, economic activities, and cultural exchange. Within this virtual space, users rely on virtual identities to engage in a wide variety of activities, leading to more diverse and complex forms of identity construction and expression, which challenges traditional understandings of identity. The boundary between virtual identity and real identity has become increasingly blurred, prompting in-depth discussions on the authenticity of identity and ethical judgment. Concurrently, with the rapid expansion of the user base, social relationships within virtual communities are gradually replacing certain forms of offline interaction, exhibiting unique characteristics and modes. The reconstruction of relationships alters patterns of interpersonal interaction and has a profound impact on social trust mechanisms and value systems. Against this background,

issues related to identity ethics in the Metaverse are of great practical significance and value for understanding transformations in social relationships in the digital era and for building more comprehensive virtual space governance systems. This study will focus on an in-depth analysis of the ethical status of user identity construction in the Metaverse and its impact on social relationships, providing a solid structural foundation for the formulation of future policies and the promotion of technological applications [1].

1.2. Research Significance

On a global scale, the rise of the Metaverse provides new platforms for social interaction and exchange, transforming traditional modes of socialization and identity recognition [2, 3]. Research on identity ethics and the reconstruction of social relationships in Metaverse virtual spaces holds significant structural and practical importance. Understanding the process of identity construction in the Metaverse is crucial to the dynamic mechanisms of self-expression and social recognition of users in virtual environments. Analyzing how users construct and manage identities in virtual spaces provides a structural foundation for the ethical governance of digital identities and promotes policy formulation related to privacy protection and data security. Studying the reconstruction of social relationships by the Metaverse helps clarify its detailed effects on interpersonal interaction and social exchange, including its influence on trust, sense of ownership, and the formation of community culture. This not only provides new perspectives for understanding social behavior and social structures in the real world but also enhances understanding of modern social networks and virtual communities. This research provides rich empirical material for academia, promotes interdisciplinary exchange and cooperation, and advances the development of multiple fields such as digital humanities, sociology, and communication studies, offering concrete structural support and policy recommendations for building a more stable and orderly Metaverse environment. Through analysis of the dynamics of identity ethics and social relationships, this study provides indispensable reference bases for the future design and governance of virtual spaces.

2. The Realistic Landscape of Identity Ethics and the Reconstruction of Social Relationships in Metaverse Virtual Spaces

2.1. Theoretical Foundations and Practical Demands of Identity Ethics and the Reconstruction of Social Relationships in Metaverse Virtual Spaces

Sociological frameworks emphasize the importance of status in group interactions, viewing it as a manifestation of individual self-cognition and the foundation for establishing social relationships. In virtual environments, the construction and expression of status become more complex due to technological media, necessitating analysis from a social construction perspective to understand how users engage in self-expression and social interaction through virtual avatars. Psychological frameworks focus on individuals' sense of self-identity and ownership in virtual environments [4]. In the Metaverse, users encounter a highly adaptable environment for status construction, which satisfies their needs for diversity and exploration while also leading to confusion regarding status identification and feelings of emotional loneliness. Research on establishing positive psychological mechanisms in such environments and enhancing users' social satisfaction is of significant practical importance. Information ethics provides an ethical framework for this study, emphasizing the necessity of protecting user privacy, respecting the authenticity of identity, and achieving fair interaction in virtual spaces. As more users enter the Metaverse, establishing efficient ethical norms and governance mechanisms has become an urgent task, crucial for maintaining social trust relationships and achieving healthy interactions.

2.2. Presentation of the Realistic Landscape

2.2.1. Various Conflicts Between Virtual Identity Construction and Real-World Ethical Norms

Users freely create and modify their identities in virtual environments [5]. While such design concepts satisfy the need for personal expression, they also bring about issues related to the realization of identity. Some users fabricate identities for entertainment or personal gain, leading to frequent cases of identity impersonation and fraud, which undermine the trust foundation of virtual communities. When enjoying personalized services and social convenience, users often need to share personal information, yet the collection and use of such information usually lack transparency and effective supervision, placing user privacy at potential risk. Many users have insufficient awareness of digital footprints, causing them to become victims of commercial interests without their knowledge. The lack of trust affects users' social experiences and lowers the level of social morality. Traditional legal systems find it difficult to fully adapt to rapidly developing virtual environments, and users' behaviors in virtual spaces often lack effective legal protection.

2.2.2. Various Disconnects Between Immersive Interaction Technologies and Complex Social Contexts

Immersive social technologies emphasize interactivity and immediacy within virtual environments. However, current technologies often fail to fully replicate the nuances and emotional expressions found in real-world social interactions. In virtual spaces, users face limitations in information transmission, such as the lack of nonverbal cues like body language and facial expressions, which can lead to misunderstandings and communication barriers, further intensifying feelings of alienation. Over-immersion in virtual socialization may cause individuals to neglect face-to-face interactions, resulting in a decline in social skills and negatively impacting the formation of interpersonal relationships in the real world [6]. As the variety of virtual environments expands, users must navigate diverse scenarios, roles, and groups during social interactions, which can cause confusion and pressure when adapting to different social contexts. Immersive social technologies do not necessarily support users in making appropriate behavioral adjustments in complex social situations. The gap between real-world social culture and virtual environments leaves users lacking the necessary skills and methods to handle social situations effectively. Therefore, researching how to bridge the disconnect between technology and social contexts and enhance users' social competence in virtual spaces is crucial for the stable development of interpersonal relationships.

2.2.3. Imbalance Between Digital Interaction Processes and Real-World Social Ethical Mechanisms

The convenience and efficiency brought by digital exchange attract many users to participate; however, during the exchange process, existing moral mechanisms may not effectively adapt to new forms of social interaction. Exchanges conducted by users in virtual environments often lack the moral constraints inherent in traditional social interactions, leading to neglect of others' feelings [7, 8]. Behaviors lacking empathy can give rise to phenomena such as cyberbullying and harassment, which not only harm the psychological health of victims but also weaken the cohesion of virtual communities. Because users do not perceive direct real-world consequences, they lack reflection on their own behavior, making irresponsible actions in virtual environments more severe, exacerbating the breakdown of trust relationships and rendering social relationships fragile and unstable. This imbalance reflects structural contradictions between social morality and digital exchange, indicating that traditional moral concepts struggle to effectively constrain and guide behavioral expressions in virtual environments.

3. Analysis of the Causes of Identity Ethics and the Reconstruction of Social Relationships in Metaverse Virtual Spaces

3.1. Analysis of Internal Structural Contradictions

3.1.1. The Inherent Tension Between Virtual Attributes and Ethical Norms

The diversity of virtual status allows users to freely choose personal attributes, preferences, and value concepts, presenting themselves in ways different from real life within virtual environments. Highly flexible methods of identity construction are not built upon mature moral norms, resulting in challenges to the realism of identity and a sense of responsibility [6]. Users may exploit this flexibility to engage in identity abuse or manipulation, harming others' interests and social trust. In anonymous environments, users often fail to perceive the moral constraints present in real-world interpersonal interactions, exhibiting behaviors that lack responsibility and empathy. The disorderliness of virtual spaces makes it easy for individuals to overlook emotional expression and the maintenance of morality in interactions. This imbalance leads to the spread of undesirable behaviors in virtual social circles, such as cyberbullying and the dissemination of false information, affecting the stable development of the entire community. Moral education and the establishment of ethical norms in virtual environments have not yet kept pace with technological development, lacking efficient regulatory mechanisms and moral guidance. While enjoying virtual freedom, users lack sufficient vigilance regarding potential moral crises.

3.1.2. The Value Game Between Identity Mobility and Relationship Certainty

Users adjust their self-presentation and virtual personas according to different social settings and practical needs to experience diverse social lives. This flexibility satisfies individuals' needs for varied self-identification. However, the mobility of status can lead to interpersonal relationships becoming fragile and uncertain. Users' virtual status often lacks deep emotional connections and stable social trust, making the establishment and maintenance of social relationships difficult. If too much emphasis is placed on the stability of status, users' self-expression and social exploration may be constrained, hindering the building of diverse social networks in virtual spaces. Conversely, if status mobility is too frequent, it may trigger doubts about its stability and authenticity, ultimately leading to alienation or even loss of social relationships. Constructing stable and trustworthy social relationships while maintaining status mobility has become a crucial research topic.

3.2. Analysis of External Environmental Constraints

3.2.1. Technological Inertia: Digital Path Dependence and Algorithmic Barriers

Digital path dependence refers to the habits and dependencies that users develop when using a specific platform or technology. Such dependence can lead to resistance and adaptation difficulties when users encounter new social tools or virtual environments. Users often become accustomed to existing social modes and methods of status construction, making technological renewal and innovation challenging to accept efficiently. This limits users' exploration and participation in the Metaverse and creates a gap between technological progress and user practice. Many Metaverse services rely on complex algorithmic systems for tasks such as content delivery and user matching. When providing personalized services, algorithms may involve biases or privacy issues, posing potential risks in status expression and social interaction. If algorithms misinterpret or incorrectly process user behavior, users' social experiences may be negatively affected, leading to erroneous construction of social relationships and exacerbating confusion and instability in identity recognition [6]. The opacity of algorithms causes users to lack trust in their social environments, significantly hindering the formation of healthy interactions.

3.2.2. Social Alienation: The Alienation of Capital Logic and Interpersonal Interaction

The pace of marketization in the Metaverse has been accelerating rapidly, with capital logic becoming a key force driving the advancement of technology and platforms. In this process, user participation and exchange are increasingly regarded as basic units of commercial value, leading to the quantification and commodification of social relationships. This trend makes emotional connections and real interactions between individuals more fragile. Driven by capital logic, interpersonal relationships are becoming increasingly objectified. Users often pursue immediately visible economic returns and personal value, neglecting deep interactions that should be built on trust and emotional foundations, resulting in superficial social relationships. To gain recognition and influence in virtual spaces, users strive for higher social returns, creating a competitive atmosphere where relationships become more utilitarian. Additionally, users are highly sensitive to market feedback, and social behaviors are influenced by external evaluation standards, leading to accommodating or hypocritical interactions, thereby weakening the authenticity and stability of interpersonal relationships.

3.3. Interaction Mechanisms of the Causes

3.3.1. Constructing a Four-Dimensional Interwoven Model of "Technology--Ethics--Capital--Society"

This model emphasizes technology, ethics, capital, and society as four elements that together constitute a dynamic system of mutual interweaving and interaction. Within this model, the technological foundation provides driving forces by offering individuals tools and environments for status construction and social activities. Emerging technologies such as virtual reality and blockchain continue to develop, enabling the mobility of status and the diversification of social methods in virtual spaces, allowing users to express and exchange status within broader social networks. The ethical dimension focuses on the obligations and moral norms formed during the use of technology, reflecting the basic moral principles that users need to follow when constructing status and engaging in social activities. Given the increasing complexity of technology, establishing corresponding ethical frameworks is particularly important to ensure trust relationships and social security among users. The capital dimension involves the commercial logic of the Metaverse, where capital drives technological innovation and development and influences users' behavioral patterns and social motivations. Under the dominance of commercial logic, social relationships are commodified, affecting real-world interpersonal interactions. The social dimension includes factors such as cultural background and social identity that influence individuals' behavior and status recognition in virtual spaces. The integrated analysis of this four-dimensional model provides a more comprehensive perspective for exploring the diversity and variability of status, ethics, and the reconstruction of social relationships in Metaverse environments, thereby contributing to the construction of a more stable and sustainably developing virtual social ecosystem.

3.3.2. Analysis of the Transmission and Reinforcement Effects Among Causal Elements

The driving forces brought by technological factors, such as innovative tools and platforms, grant users greater autonomy in status construction, allowing them to flexibly express themselves within virtual environments. This flexibility enables the formation of diversified statuses and creates new characteristics in social interactions. Supported by technology, users continuously experiment with new combinations of status and social methods, forming a reinforcement effect that promotes technological evolution and enhances user experience. When ethical frameworks are effectively implemented and recognized, users' social behaviors in virtual spaces are more likely to conform to moral norms, which helps build trust and increases users' willingness to participate in social interactions as well as their depth. In turn, sound behavioral norms strengthen the cohesion of the entire community and enhance harmony within virtual social environments. Capital investment in technological innovation leads to the continuous emergence of new technologies, influencing users' motivations for social participation.

However, profit-driven models can result in the alienation of social relationships, as users may neglect the construction of real interpersonal relationships in the pursuit of economic benefits, which in turn leads to ethical anomie.

4. Optimization Paths for Identity Ethics and the Reconstruction of Social Relationships in Metaverse Virtual Spaces

4.1. Reconstructing Ethical Value Consensus

4.1.1. Bridging Ethical Divisions Between Virtual Identity and Real Society

It is essential to implement education and awareness initiatives to enhance users' sense of responsibility and moral awareness in virtual worlds. Users need to understand that behaviors in virtual spaces, although seemingly confined to digital environments, can significantly impact real-life interpersonal relationships. By analyzing specific cases, users should be made aware of the potential consequences of virtual behaviors, encouraging them to consciously adhere to moral norms in virtual spaces. Virtual behavioral guidelines that align with the moral standards of real society should be developed, ensuring users follow similar ethical norms in virtual environments. These rules should be created with user participation to enhance their sense of identification and compliance. Additionally, technological means should be employed to monitor and provide feedback, promptly correcting inappropriate behaviors and reducing the moral gap between the virtual and the real. To facilitate cross-industry dialogue and collaboration, all sectors of society—including technology developers, policymakers, and users—should be encouraged to jointly participate in constructing ethical frameworks, achieving understanding and consensus through multi-perspective communication.

4.1.2. Building an Inclusive Virtual Ethical Discourse System

An open and free platform should be established to allow users to express diverse views on virtual ethics. Forms such as discussion forums, seminars, and online debates can be organized to enable users from different backgrounds to freely exchange ideas. This helps deepen understanding of ethical issues, seek common ground through discussion, and reduce disputes. Design should consider different cultural backgrounds, gender status, age groups, and the specific needs of communities, making every effort to ensure that diverse voices and demands receive due attention and respect. Reflective principles should be introduced into ethical discussions, encouraging users to conduct self-examination while understanding others' perspectives, thereby forming more proactive moral judgments and behaviors in virtual exchanges. With the aid of technologies such as artificial intelligence and big data analysis, user interactions in virtual spaces can be monitored and analyzed in real time, promptly identifying user needs and pain points, making the construction of ethical discourse systems more technology-driven and adaptive.

4.2. Optimizing the Combination of Technical Governance Tools

4.2.1. Promoting Synergy Between Mandatory Tools and Incentive Tools

Mandatory tools primarily include legal regulations, platform policies, and technological monitoring. Clear rules and norms should be established to regulate user behavior and prevent inappropriate actions. These tools effectively maintain the security and order of virtual environments, such as identity verification mechanisms, user behavior management, and violation penalty systems [9]. Through explicit punitive measures, users' awareness of compliance with moral norms can be enhanced. Simultaneously, incentive mechanisms such as reward systems, point systems, or virtual currency incentives should be established to encourage users to participate in appropriate social interactions. In the Metaverse, when users actively engage in social activities, respect others, and comply with platform rules, they can receive corresponding rewards, enhancing their sense of participation and ownership. Voluntary behaviors contribute to the construction of a positive social atmosphere. Rigorous supervision and clear rules

provide users with a sense of security and order, while incentive systems also enhance users' initiative and enthusiasm, achieving the goal of encouraging users to consciously adhere to moral norms in virtual environments.

4.2.2. Promoting the Matching of Supply-Side Tools and Demand-Side Tools

Supply-side tools primarily involve the roles of platforms and technologies, along with the resources they offer, such as identity verification systems, social interaction user interfaces, and user guidelines. In contrast, demand-side tools reflect users' actual needs and expectations, including a sense of security and the richness and diversity of social interactions. Efforts should focus on ensuring efficient matching between these tools to enhance user experience and build a more stable social environment. User feedback should be collected to identify issues in the identity verification process, and technical measures should be improved to enhance the convenience and security of identity confirmation. Innovation in social interaction functions should be strengthened to meet users' expectations for personalized communication and emotional connection. Technical developers and social technology experts should collaborate to design social platforms and functional tools that better align with user needs [10, 11].

4.3. Improving Social Participation Mechanisms

4.3.1. Expanding Channels for Interest Expression by Multiple Stakeholders

Establishing an open and transparent feedback platform is essential for expanding channels of interest expression. Methods such as creating user discussion areas, setting up suggestion boxes, and conducting online surveys should be adopted to encourage different stakeholders to actively express their views and needs [12]. Diversified communication methods help collect user opinions on status construction, social interaction, and platform functions, making decision-making processes more democratic and transparent. Developers and platform operators can understand pain points in the usage process through user feedback and make targeted adjustments in product planning and functional improvement. By being given opportunities to voice their opinions in communication environments, users' sense of participation and belonging is enhanced, while their loyalty to the platform is also strengthened. By integrating with social platforms, users can share their experiences and suggestions across a broader scope, enabling rapid dissemination and feedback of information.

4.3.2. Improving Deliberative Democracy and Ethical Feedback Mechanisms

Online roundtable meetings should be held regularly, inviting stakeholders such as users, technology developers, ethics experts, and platform operators to participate in discussions on platform governance issues and ethical situations encountered by users. Formal dialogue and consultation expand the scope of decision-making and enhance users' recognition of platform policies. Clear feedback channels should be established to ensure that users' opinions, suggestions, and complaints receive timely responses and handling. Dedicated ethical monitoring teams should be set up to regularly review user behavior in virtual spaces, collect and analyze feedback data, and form an efficient ethical evaluation system. This system is used to identify potential ethical issues and provide a basis for the adjustment and improvement of platform policies [7]. Every effort should be made to ensure that users enjoy a higher sense of security and trust in virtual spaces. With the help of big data analysis and artificial intelligence technologies, platforms can monitor user behavior and opinion dynamics in real time, promptly identify issues arising in social interactions and their impacts, and respond quickly.

5. Conclusion

The Metaverse, as a virtual space, presents a complex and continuously evolving landscape for the reconstruction of status, ethics, and social relationships. This process involves the interplay of multiple factors, including technology, ethics, and social culture.

Analyzing the Metaverse environment reveals that users constructing status in this emerging space face challenges not only related to technological implementation but also constrained by social and cultural backgrounds and moral concepts. To effectively address the ethical issues arising from virtual status and establish stable social relationships, it is essential to develop an integrated governance framework. Future research should emphasize interdisciplinary collaboration, combining technological development with social science frameworks to explore adaptive ethical structures and efficient governance measures that support the sustainable development of the Metaverse. Through joint efforts from all parties, positive interaction between the virtual and the real can be achieved, promoting the stable development of social relationships and ultimately constructing a social environment in the Metaverse that is fair, inclusive, and imbued with a strong sense of moral responsibility.

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