

Enhancing Metaverse Security: A Multi-Factor Authentication Scheme

Authors : R. Chinnaiyaprabhu, S. Bharanidharan, V. Dharsana, Rajalavanya

Abstract : The concept of the Metaverse represents a potential evolution in the realm of cyberspace. In the early stages of Web 2.0, we observed a proliferation of online pseudonyms or 'nyms,' which increased the prevalence of fake accounts and made it challenging to establish unique online identities for various roles. However, in the era of Web 3.0, particularly in the context of the Metaverse, an individual's digital identity is intrinsically linked to their real-world identity. Consequently, actions taken in the Metaverse can carry significant consequences in the physical world. In light of these considerations, we propose the development of an innovative authentication system known as 'Metasec.' This system is designed to enhance security for digital assets, online identities, avatars, and user accounts within the Metaverse. Notably, Metasec operates as a password less authentication solution, relying on a multifaceted approach to security, encompassing device attestation, facial recognition, and pattern-based security keys.

Keywords : metaverse, multifactor authentication, security, facial recognition, patten password

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