BLOCKCHAIN AND EXTENDED REALITY SYNERGY

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Blockchain and Extended Reality are emerging technologies which are striving to gain adoption at enterprise scale. A new, synergistic system that incorporates these technologies will unlock vast potential and create new markets and value.
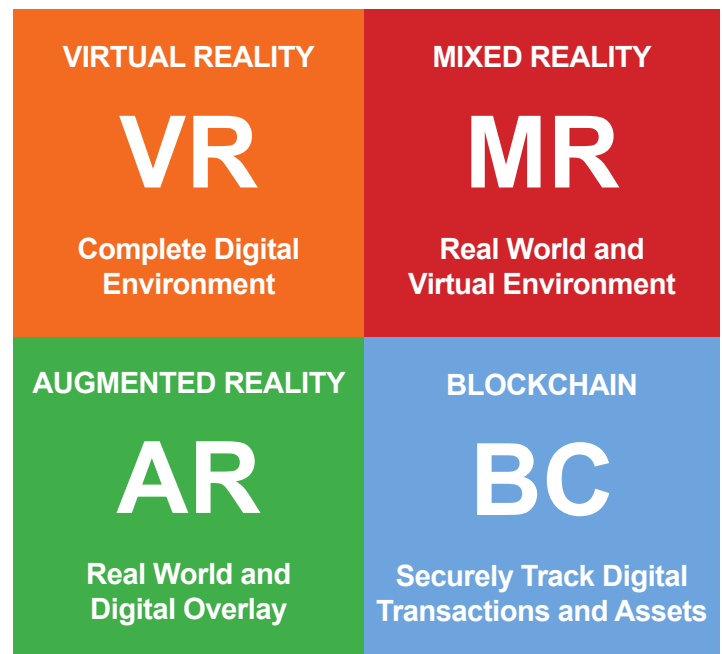
SYSTEMS THEORY

Systems change is a relatively new term that has grown in popularity over the past decade. As defined, systems theory is the interdisciplinary study of systems – being a cohesive conglomeration of interrelated and interdependent parts. As this concept relates to information technology, enterprises are experiencing a paradigm shift due to the emergence of innovation that provides decentralized methods to access, exchange, and virtually interact with data. These patterns will have a systemic impact on data structures, functions, organization, and flow of information. Harnessing components of integrated systems through leveraging powerful emerging technologies like blockchain and merging it with other disruptive trends such as extended reality, will create a novel dynamic between humans and digital information.

TECHNOLOGY OVERVIEWS

The primary forms of Extended Reality are Virtual Reality, Augmented Reality, and Mixed Reality - combining human and digital interaction generated by computer technology and wearables. These platforms blend human experience and perceptions by immersing these senses in a digitally charged world. Many have heard of some or all of these technology domains, especially virtual reality, however, it is important to understand that each pillar within extended reality have unique value propositions and potential applications.

Virtual Reality (VR) is the most familiar of the three pillars. VR includes the immersion of individuals within a completely digital environment in which they can see and interact with digital objects. VR was popularized during the 1990s with video gaming headsets, and now VR is once again becoming a key focus for technological applications. In practice, human participants in VR are able to perceive and interact with an artificial environment through the use of some type of hardware or headset. Utilizing some of the most basic human senses like vision, hearing and cognitive stimulation, VR provides users with the sensation that they are actually interacting in real-time with a digital environment.

Augmented Reality (AR) is an interactive experience of a real-world environment where objects that reside in the real world are enhanced by computer-generated perceptual information. Mixed reality (MR) is the merging of real and virtual worlds to produce new environments and visualizations, and physical and digital objects co-exist and interact in real-time.

VIRTUAL REALITY
VR
Complete Digital Environment

MIXED REALITY
MR
Real World and Virtual Environment

AUGMENTED REALITY
AR
Real World and Digital Overlay

BLOCKCHAIN
BC
Securely Track Digital Transactions and Assets

Blockchain (BC) is a distributed digital ledger in which records of transactions are shared, updated, and maintained in an immutable manner across multiple computers that are linked together in a peer-to-peer network. The term "block" and "chain" in this context refers to digital information (the "block") stored in a publicly visible and sequential data structure (the "chain"). As a digital ledger, "blocks" are used to record transactions across a decentralized network. Blocks cannot be changed retroactively without the alteration of all subsequent blocks in the chain, or through the consensus of the participating nodes.

SYNERGIES

Extended Reality platforms have the ability to shape a new environment and the associated experiences where physical and virtual objects can be integrated at different levels. This is especially true when focusing on applications related to data. Boundaries between the digital and physical world are beginning to fade and individuals can experience data as it relates to the way economies function, the way a business operates and more within a highly visual and understandable manner.

To provide additional depth, blockchain can synergize with extended reality. Essentially, blockchain is an enhancer that supports these platforms with more data security through consensus protocols. Also, blockchain's ability to track and store transactions and digital assets in a transparent manner, coupled with the immersive promise of technologies like extended reality platforms and associated applications, provide for a dynamic combination.